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SES OF GRAIN FUTURES MARKETS IN THE FARM BUSINESS

T. A. HIERONYMUS

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UNIVERSITY OF ILLINOIS AGRICULTURAL EXPERIMENT STATION

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This bulletin was prepared by T. A. Hieronymus, Professor of Agricultural Marketing.

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FARMERS OFTEN INDICATE AN INTEREST IN GRAIN FUTURES MARKETS, both a general interest in how futures influence the price and marketing of grain, and a specific interest in how they can use futures in their farming operations. Futures markets are advanced and sophisticated systems of trading in contracts for deferred delivery, and a fairly high level of knowledge about them is necessary if they are to be used effectively. At the same time they are basically simple exchange markets that evolved out of existing commercial needs. The acquisition of enough knowledge to use futures markets is neither a long nor a difficult process. The information contained in this bulletin will give the farmer both a basic and detailed understanding of the futures markets, and will tell him how he can make effective use of these markets in connection with his farm business.

There are principally four ways in which farmers can use futures markets in their farm businesses:

1. To fix the price of a crop before harvest. At any time from before planting until harvest a farmer can fix, within narrow limits, the price that he will receive at harvest by selling futures contracts in an amount equal to the quantity of the crop that he expects to produce. In a sense, futures markets offer farmers an opportunity to produce on contract at guaranteed prices.

2. To fix the price of grain in storage for later delivery. The futures market effectively bids for grain that will be delivered at various times in the future. Typically these bids are higher as the time of delivery is more distant. Thus farmers, by selling futures contracts, can accept the current market price and yet retain possession and be paid for storage.

3. To fix the cost of feed without taking immediate delivery. Feeders can cover forward requirements by buying futures contracts. They will, however, indirectly pay someone else to store the feed grain until they are prepared to accept delivery.

4. To speculate in the price of a crop that has been produced but for which storage is not available. Frequently farmers wish to retain ownership of a crop that they have produced even though they do not have or cannot obtain storage space. They can do so by selling cash grain and replacing it with futures. However, the increase in the futures price is typically less than the increase in the price of the cash grain. If the price of the grain goes down, the futures will go down

more than the cash. If the change in the general level of price is small, the futures may actually go down while the cash price is going up. Thus, indirectly, farmers pay someone else to store for them when they replace cash with futures.

The key to understanding futures markets may be had through the study of *basis.* Basis is the difference between cash and futures prices. Typically the cash price increases in relation to the futures as the storage season progresses. This narrowing of the basis is equal to the going market price for storage. The behavior of the basis is fairly consistent from year to year. It is possible to anticipate basis behavior during periods in the future and thus read from futures prices the prices that can be received for cash grain (for later delivery) if offsetting futures positions are taken.

Futures markets are not used extensively for transfer of title. Farmers should never trade in futures expecting to make or take delivery. Rather, they should separately trade in futures and apply profits or losses to the prices received and paid in their usual transaction at local elevators.

In our discussion we shall proceed through six steps: (1) description of futures trading, (2) information about how one actually trades, (3) the economics of futures trading, (4) cash and futures price relationships, (5) the uses farmers can make of futures, and (6) some common pitfalls in futures trading.

DESCRIPTION OF FUTURES MARKETS

Futures trading is authorized for many commodities and on several exchanges. The principal United States exchanges and the commodities traded in them are as follows:

Exchanges	Commodities
Chicago Board of Trade	Wheat, corn, oats, rye, soybeans, lard, cotton, cottonseed oil, soybean oil, grain sorghums, soybean meal
Chicago Mercantile Exchange	Butter, eggs, potatoes, frozen broilers, frozen turkeys
Chicago Open Board of Trade	Wheat, corn, oats, rye, soybeans
Commodity Exchange, Inc., New York	Burlap, copper, hides, rubber, zinc

Kansas City Board of Trade....Wheat, corn, grain sorghums
Memphis Board of Trade.....Cottonseed meal, soybean meal
Milwaukee Grain Exchange....Wheat, corn, oats, rye
Minneapolis Grain Exchange...Wheat, oats, rye, soybeans, flaxseed
New Orleans Cotton Exchange.....Cotton
New York Cocoa Exchange....Cocoa
New York Coffee and Sugar Exchange.....Coffee, sugar
New York Cotton Exchange...Cotton
New York Mercantile Exchange.....Potatoes, eggs, butter
New York Produce Exchange..Cottonseed oil, soybean oil
Seattle Grain Exchange.....Wheat
St. Louis Merchants Exchange..Millfeed
Wool Associates of the New York Cotton Exchange.....Wool, wool tops

With regard to the grains, the Chicago Board of Trade is by far the largest market. Kansas City and Minneapolis, as well as Chicago, are important wheat futures markets. Nearly all of the futures trading in the other important Illinois-produced grains (corn, soybeans, oats) is conducted at Chicago.

Futures contract A futures contract is an agreement between two members of an exchange to buy and sell at a specified time in the future an agreed amount of a commodity at an agreed price. This contract for deferred exchange may or may not be finally consummated by an exchange of title. It is nevertheless a firm and binding agreement.

The contracts are highly standardized so that most of the terms are understood and trading can proceed with a minimum of negotiation and great rapidity. The standard unit of trading is 5,000 bushels of the major grains. These contracts may be subdivided into smaller units for the benefit of people who wish to trade in units of less than 5,000 bushels. These "job lots" are in multiples of 1,000 bushels for corn, soybeans, and wheat, and multiples of 2,000 bushels for oats. The unit of trading is ⅛ of a cent. This amounts to $6.25 per 5,000-bushel contract.

There are various delivery months authorized for trading. These have been adopted over time out of existing trade practices. For the four principal grains they are:

Corn	Oats	Wheat	Soybeans
December	July	July	September
March	September	September	November
May	December	December	January
July	March	March	March
September	May	May	May
			July
			August

It is desirable that the months of trading be restricted to less than 12 so that trading does not become spread over so many months that market liquidity is reduced. The selection of the various months is logical. For example, July is the main month of winter wheat harvest, September is the main month of spring wheat harvest, December is the last month of navigation on the Great Lakes (an important method of wheat movement), March is the first month in which navigation is open on the lakes, and May is the last month before new crop harvest.

For each trade the quantity, the month of delivery, and the price must be agreed upon by negotiation between the two principals. The rest of the terms of the contract are uniform for all contracts and are understood. Delivery is to be made at any time in the delivery month that the seller elects, from the first day to the last.

Delivery is made in store in any one of several public warehouses designated as "regular" by the Chicago Board of Trade and located in the rail switching district of Chicago. An exception to this rule is that delivery may be made, again at the option of the seller, in railroad boxcars during the last three business days of the delivery month.

No. 2 grade is the quality traded. There are premiums and discounts (fixed by the exchange) if the seller elects to deliver a higher or lower grade. The terms of payment are cash on delivery of warehouse receipts. No credit is extended on futures trading.

Pit trading Trading on the Chicago Board of Trade is done in pits. These are hexagonal structures with steps that lead down into the center. This arrangement results in maximum visibility for all of the traders. The place where each trader stands indicates the delivery month in which he is primarily interested in trading.

Bids and offers are cried out in a sufficiently loud voice for all to hear. The result is that there is sometimes so much noise that few can hear and trading is actually done by a system of hand signals. Each

trader carries a small card on which he records each trade that he makes. At the end of the day all of the trades are reported to a central clearing house, and all reported purchases and sales must match up.

At an elevated position overlooking each of the trading pits, there is stationed a market reporter. He observes each change in price, writes each new price down, and sends it to a central point near the trading floor, where it is put on the ticker system for transmission to grain tickers throughout the world. The whole reporting process takes only a few seconds.

There are several different kinds of people in the trading pits. Among them are scalpers, pit traders, position traders, and spreaders. These people are speculators, attempting to earn money from the changes in prices. They perform several useful functions: provide liquidity, assure competition, assure rational price interrelationships, interpret current market news quickly, etc. On balance their influence is to make the market a competitive and sensitive pricing device.

Also in the pit are brokers who act on instructions of commission companies, who in turn act on instructions of customers. Only members trade. Brokers are the means through which nonmembers, that is, the general public, become principals in futures market trades.

The exchange The exchange is an association of people whose businesses are related to the marketing of commodities. The Chicago Board of Trade, which is our focal point of interest, consists of 1,402 members. The membership is limited to this number and is changed only by special action of the exchange. Memberships are bought and sold by negotiation between individuals. The price varies and in recent years has ranged between $3,500 and $8,900. Each prospective member must be approved by the membership committee of the exchange.

The Chicago Board of Trade is governed by an elected board of directors consisting of a chairman, vice chairman, second vice chairman, and 15 directors. The principal executive officer is the president, who is appointed by the board and is paid a salary.

The exchange operates primarily through committees. It includes such committees as arbitration, business conduct, clearing house, floor conduct, rules, public information and education, market reports, etc. These committees formulate policy and guide and direct the activities of the exchange.

The membership is composed of people whose activities include every phase of the marketing of grain. They include operators of terminal elevators, interior or country grain merchants, processors of the

s kinds of grains and soybeans, exporters, commission futures ants, brokers, cash-grain merchants, and speculators. The membersnip is representative of the grain trade, and the exchange is democratically governed by the membership. The result is a system of checks and balances on the conditions of futures trading that assures a reasonably equal competitive balance among the various conflicting interests.

The exchange has certain general functions. Chief among them are to (1) provide the facilities for trading, (2) write the rules, (3) supervise the trading and enforce the rules, (4) distribute market information, including price quotations, and (5) act as a trade association on behalf of its members in relation to government and the public. It should be noted that actual trading is absent from this list. The exchange itself does not trade in futures contracts. Only members of the exchange trade.

Governmental regulation Futures trading in grains developed during the period from 1848 to 1870. It has had a long history of distrust and complaints, and consequently there have been many appeals to government for regulation. A thorough investigation by the Federal Trade Commission in the early 1920's resulted in the Grain Futures Act in 1922 and the establishment of the Grain Futures Administration as a division of the USDA. There were extensive studies of futures trading in the 1920's and the early 1930's. They resulted in major amendment of the Grain Futures Act in 1936, including renaming the act the Commodity Exchange Act and the administrative body the Commodity Exchange Authority.

The major functions of the Commodity Exchange Authority are (1) licensing of futures exchanges, (2) licensing of brokers and commission futures merchants, (3) audits of the records of commission futures merchants, (4) surveillance of trading, (5) investigation of complaints, (6) regulation of the total positions that may be held by one individual and the volume of trading permitted in one day, and (7) making and publicizing of market surveys and analyses.

Through these activities the CEA works to prevent the unlawful practices of price manipulation and market corners. It guards against fraud, cheating, and manipulation, such as false records of trade, fictitious trades, deception in the execution of orders, failure to execute all trades in the pits, and improper brokerage practices and misuse of customers' funds for the broker's own business.

Thus, there are two major supervisory bodies, the exchange and the Commodity Exchange Authority. The result is that futures markets are open, competitive, public markets, relatively free of collusion, monopolistic and manipulative practice, and price fixing.

HOW ONE TRADES IN FUTURES MARKETS

To trade in futures markets, nonmembers must become customers of commission futures merchants. There are several of these firms located at Chicago, and most of them have branch offices in outside cities. Branch offices of the different firms are located throughout Illinois so that there is one not too far from any point in the state.

The customer signs an agreement with the commission futures merchant authorizing him to execute trades and makes a deposit of funds to guarantee performance on the contracts. The agreement is usually fairly long and in fine print. The new customer should read the agreement carefully so that he fully understands the rules under which he must operate.

There is no reason for distrust of commission futures merchants. They are licensed by the USDA and are closely supervised both by the government and the exchange. The customers' agreements are essentially the same for all firms, and the charges are uniform and set by the exchange. Commission firms will undertake to execute any kind of order that the customer places provided they can clearly understand what the customer wants.

There are several different kinds of orders that customers place. The simplest is the *market order;* it instructs the broker to buy or sell, as the case may be, immediately at the most advantageous price. The broker tries to buy or sell at the most recently traded price. If no one accepts, he bids the price up or offers at lower prices until someone does accept. Thus, the trade may be executed at a price a little bit away from the last traded price. The second kind of order is a *limit order.* In this case the customer tells the broker to buy if he can get as low a price as, say, $1.41\frac{3}{8}$ or sell if he can get as much as $1.41\frac{3}{8}$. Limit orders may be placed at the last traded price, near it, or several cents away. Third is the *stop loss order.* Here a customer who has previously bought says to sell out at the market if the price goes down to such and such a figure. The opposite kind of stop loss is used when the customer has previously sold. The purpose of the stop loss order is to limit a threatened loss or to insure an existing profit. Fourth is a *spread order,* which is used when a customer wishes to buy one delivery month and simultaneously sell another. He instructs the company to buy, say, March and sell May at a premium of (no more than) three cents. There are various reasons for placing such an order. These will be discussed below. More complicated orders can be placed, but these are enough to make the point that the commission merchant will take any order that he can understand and readily execute.

Market orders are processed and executed with great speed. In one trial run, without advance warning that it was being timed, a market order was placed at a branch office 150 miles from Chicago. Forty-two seconds later the customer was handed a slip of paper indicating the price at which the trade had been made. To make the actual trade took only 12 seconds. This is an unusually fast time, but a minute is considered a long time for execution.

Long and short A position in a futures market can be either long or short. To be long is to have a contract to purchase, accept delivery, and pay for a commodity later. It is to have an inventory purchased for deferred delivery. If an individual purchases 5,000 bushels of July corn at $1.15, he will, unless he takes some offsetting action in the meantime, receive and pay for a warehouse receipt indicating ownership of 5,000 bushels of corn in store in a public warehouse in the City of Chicago sometime during the month of July. If, by the time delivery is made, the price has gone up, say, to $1.20, he can sell the corn for more than he paid for it and thus make a profit. If the price is lower, he must take less if he sells and thus sustain a loss. The long makes money if the price goes up.

To be short is to have a contract to sell, deliver, and accept payment for a commodity later. It is to owe inventory for deferred delivery. If an individual sells 5,000 bushels of July corn at $1.15, he must, unless he takes some offsetting action in the meantime, deliver the actual corn in Chicago sometime during the month of July. If, by July, the price has gone up, say, to $1.20, he would have been able to sell his corn for more than the contracted price and thus will sustain a loss. If the price is lower, he will have made a good sale and thus will make a profit. The short makes money if the price goes down.

If an individual sells something, anything, for more than he paid for it, he makes a profit. Whether he buys it first and then sells it or sells it first and then buys it makes no difference.

In a futures market, for every long there is a short. You cannot buy a contract unless someone else sells a contract. If there are contracts to buy and take delivery of 103 million bushels of wheat, there must also be contracts to sell and make delivery of 103 million bushels.

Offsetting contracts As we shall note in a later section, futures contracts usually serve purposes other than the transfer of title of commodities. Most contracts never mature, but instead are offset. During the decade from July 1950 through June 1960, only 7.4 percent of the wheat futures contracts and 7.3 percent of the soybean futures contracts traded were settled by actual delivery.

Contracts are offset by making opposite transactions. Suppose that during February a customer of a commission house sells 5,000 bushels of July corn at $1.15. He is short, committed to sell and deliver. Suppose further that the price goes down to $1.12. He reads that the Argentine corn crop has turned out to be less than was earlier estimated. From this information he reasons that the price of corn will go up. He wishes that he could now buy the 5,000 bushels that he is committed to sell and deliver in July for $1.12. So he does. He simply buys 5,000 bushels of July corn at $1.12. He is now short 5,000 bushels for July delivery and long 5,000 bushels for July delivery. From this time forward what he makes on one side he will lose on the other.

He does not need to wait until July to receive from one and pay the other. In fact he is not allowed to wait. There is no reason to have both contracts cluttering up the records. The second is offset against the first and the whole business is canceled. All that remains is to settle the monetary difference. He sold for $1.15 and bought for $1.12 and so has three cents a bushel, or $150 due him. From this total must be subtracted a commission fee of $22, leaving a net of $128. This amount is posted to his account with the commission futures merchant. Incidentally, commission is charged on a package basis, with one fee covering both the original and offsetting transaction.

Clearing house The volume of trading greatly exceeds the amount delivered. Individuals can offset contracts at will. These things together complicate settlement procedure. In our example above, our broker may have traded with a broker who was acting for a housewife in Sacramento, California. When we decided to offset, it would have been difficult to negotiate with the housewife. Instead our broker bought from the highest bidder at that moment, say a corn alcohol distiller. This bouncing around can and does go on for several trades. How is it all finally settled so that money is paid to and received from the appropriate people?

It is done through a device called the Clearing House. The Clearing House is a subordinate organization of the exchange. At the end of each day's business, the Clearing House becomes a party to all trades. It becomes the buyer to all sellers and the seller to all buyers. It is thus in a position to match all offsetting contracts, charging the accounts of all traders who have lost money and crediting the accounts of all who have gained. Thus contracts become highly impersonal and readily negotiable. (The above is an oversimplification of clearing procedures.)

Lest we leave an erroneous impression, we should emphasize that futures contracts are binding, enforceable contracts. If the buyer wishes to take delivery, he can simply stay long until delivery is made. He must either offset by selling or take delivery and pay for the grain. The opposite is true of the seller. He must either make an offsetting purchase or deliver the grain at the agreed price.

Margin Each customer of a commission merchant and each member of the Clearing House must make a deposit of funds, called margin, to guarantee performance on contracts.

The Clearing House is liable for the transactions that it has accepted from its members. It guarantees performance on all contracts. There is never the slightest doubt but that the customer will either receive his profits or pay his losses.

The commission merchant is liable to the Clearing House for the trades of his customers. Under the rules of the exchange, the commission merchants must require certain minimum margin deposits from their customers. The exchange establishes the amount of minimum deposit. The merchant may, at his discretion, require larger than minimum deposits. The amount of the margin tends to be about 10 percent of the value of the commodity, although there may be large deviations depending on the commodity and market conditions. It may be as little as 5 percent or as large as 20 percent. It is generally set at the lowest level that the exchange thinks is a safe guarantee.

In addition to the initial margin requirement, a maintenance margin is also required. The maintenance margin is the amount below which the position value must not be allowed to fall. There is a tendency for the maintenance margin to be set at about 75 percent of the original margin.

The commission merchant may call for additional margins at his discretion, but whenever the customer's margins are depleted below the minimum, he must call for additional margins; and if within a reasonable time the customer fails to bring his margins up to the minimum requirement, the broker must close out the customer's trades in an amount sufficient to bring the margin deposit up to the minimum requirement.

The maintenance margin brings up a concept of profits and losses that needs to be understood before the margin system becomes clear. Profits and losses are realized as the market value of the commodity goes up and down, even though the contract is still in effect. It is against the current position value that maintenance margins are computed. Suppose that a customer buys 5,000 bushels of July corn at

$1.25. The initial margin requirement is five cents a bushel, or $250, and the maintenance margin is four cents a bushel, or $200. If the customer deposits the minimum initial margin, the account value at the outset is $250. Suppose that on the first day the price goes up one cent. The customer could, if he wished, sell at a profit of one cent, or $50. The account value is $300. Suppose that on the second day the price goes down 1½ cents for a loss of $75. The account value is now $225. Suppose on the third day the price goes down one cent for a loss of $50. The account value is now $175, which is less than the maintenance margin of $200. The commission merchant must now contact the customer and call for an additional margin deposit. If the customer fails to respond, the commission merchant must sell out the position. If this is accomplished at the current price, the merchant subtracts his commission of $22 and will, if asked, remit the balance of $153 to the customer. In short, the original position is guaranteed by a margin deposit, but the contract is kept guaranteed by the provision of maintenance margins.

THE ECONOMICS OF FUTURES TRADING

Up to this point we have been describing futures trading as an activity. We now turn our attention to what it does as an economic institution — to the purposes it serves in the marketing of commodities, especially grains.

This system has developed and persists because it serves useful economic functions. It adds to the productivity of the economic processes; it adds to the utility that the marketing system provides. If this were not so, it would not have been continued in use as a part of the system of grain marketing system for about 100 years. Had there been, by this time, a better method of accomplishing the jobs that futures trading performs, such a method would have been adopted.

Futures trading is an important part of the commercial world. Contracts are real contracts involving actual grain. If the long stays long, he will get delivery; and if the short stays short, he must make delivery. Thus the factors affecting futures prices are the same as those affecting prices of cash grain. And the factors affecting the trading in futures contracts are the same as those affecting the trading in cash grains.

A brief look at the origin of futures trading will be helpful at this point. The system evolved gradually between 1850 and 1870 at Chicago. The Illinois-Michigan Canal linking the Illinois River and Lake Michi-

gan was opened in 1848. There immediately sprang up businesses along the river which engaged in buying corn from farmers for shipment to the rapidly growing village of Chicago. They had to buy the corn from farmers during the winter when the country roads were frozen and passable. Unfortunately, they could not immediately ship the corn to Chicago because when the roads were frozen so were the river and canal. They had to pay cash for the corn and hold it in storage until the spring.

Most of these merchants used up all of their own capital in building the cribs. Their bankers were not enthusiastic about lending them money to buy the farmers' corn when they had to take a chance on what would happen to the price during the months that the corn was in storage. These merchants thus quickly developed the practice of going to Chicago and selling corn to Chicago merchants for delivery in the spring. These contracts were made at firm prices. Thus the country merchants were no longer subject to the risks of changes in prices. The first record of one of these contracts was found in the newspapers in early 1851.

The country merchants found that the Chicago corn merchants were not always the highest bidders. Sometimes other people not connected with the trade in grain would bid more. These people were financiers, building contractors, lawyers, etc.

During the mid-1850's prices rose sharply and varied greatly because of war in Crimea. Later the Civil War put great demands on the Chicago corn trade, and prices rose further and became highly variable. Trade in forward contracts for grain became quite brisk, some contracts changing hands several times before delivery was actually made. The general public as well as the grain merchants became heavily involved in this trade.

By the late 1860's the contracts were standardized, the time and place of trading were regularized, and trading rules were adopted. From this beginning futures trading evolved and developed into its present form. The trading in wheat followed closely behind that of corn. Trading in butter and eggs evolved during the period from 1900 to 1920, and in soybean oil and soybean meal during 1946 to 1951. The histories of futures trading of these commodities are similar. In each instance existing practices of forward contracting were codified into formal futures trading.

The exact point at which the informal trading in futures contracts became futures trading cannot be identified. They are, in essence, the same thing. The need arose for shifting the risks of price change from the storers of inventory to people better able to finance the inventories

and sustain the losses involved in assuming price risks. In short, a system for shifting risks evolved.

Five functions of futures trading should be listed: (1) publicity and information, (2) regulatory, (3) financing, (4) risk shifting, and (5) pricing.

Publicity and information The widespread interest in futures trading and the precision with which futures prices are quoted results in more extensive publicizing of prices than would probably otherwise exist. Futures trading also results in the development and dissemination of a lot of market information about production, use, receipts, shipments, storage stocks, etc. There is probably more of this information available than would otherwise exist. The more that is known about trading and the conditions affecting trading, the more competitive a market becomes. Competition in markets is useful in assuring fair treatment for all.

Regulatory Futures trading is closely regulated, both by the exchanges and by the USDA. Such regulation tends to reduce the possibility of price manipulation and the exercise of monopolistic positions. Insofar as regulation assures a better balance of power, competition is increased. Futures trading is much more closely regulated than cash trading. Practices that are illegal in futures markets are legal in cash markets.

Financing A substantial proportion of the cost of marketing is the financing of inventories. Shifting risks of ownership away from inventory holders greatly reduces the cost of capital needed to carry inventories. Specifically, a high proportion of the money needed to carry hedged inventories — say 90 percent — can be borrowed at minimum interest rates. The proportion that can be borrowed on unhedged inventories is smaller, and the interest rate higher.

Risk shifting Futures trading, as we have seen, developed because of the needs of merchants to shift the risks of price changes. Risks are shifted by the process of *hedging*. To hedge is to take a position in futures equal and opposite to an already existing cash position. If a merchant has a stock of 100,000 bushels of corn in his elevator, he is long cash corn. If the price goes up, he makes money. If it goes down, he loses money. He is subject to the risk of a price decline. He can offset this risk by selling 100,000 bushels of futures contracts. By selling, he becomes short futures. He is thus long cash and short futures; he is hedged. So long as cash and futures prices move up and down together, what the hedger makes on the one position

he will lose on the other, and thus he will neither gain nor lose from a change in price.

Our hedger has shifted the price risk of ownership to the purchaser of the futures contracts. Thus the process of hedging is the shifting of risks from people who have inventory positions (either long or short) in cash grain to the people who are on the opposite end of the offsetting futures contracts.

We can best see the nature of the risk-shifting process by looking at the open interest. The open interest is the amount of unoffset commitments in futures. It is the quantity of a commodity represented by outstanding contracts. The Commodity Exchange Authority requires that each person whose position exceeds 200,000 bushels report daily the nature of the position and whether he is hedging or speculating. The sum of these reports is published. We thus have a knowledge of the structure of the open interest as it is divided into three categories: (1) reporting hedgers, (2) reporting speculators, and (3) nonreporting traders. Special surveys of the market show that nonreporting traders are predominantly speculators.

Table 1 and Figure 1 show the net positions of the three categories of traders in soybean futures for the three years from mid-1958 through mid-1961. The net positions were obtained by subtracting the short from the long if the category was net long and vice versa if the category was net short.

At the beginning of each crop year, the positions of all three were quite small. At the time of harvest, the short position of hedgers built up very rapidly. For every short there must be a long. The long positions of the reporting speculators and nonreporting traders also increased rapidly. All positions tended to reach their peak levels soon after the end of harvest and subsequently gradually declined until the next harvest.

The regularity of this pattern results from the pattern of hedging. Farmers sell soybeans more rapidly at harvest than they can be used. Processors and warehousemen accumulate large inventories (long) of cash soybeans. They hedge by selling (short) futures contracts. Processors and warehousemen regularly hedge their cash inventories. Their position in futures is a mirror (opposite) image of their cash position. The pattern is not precisely the same each year. In 1960 to 1961 the open interest did not reach a peak until the end of February. Farmers sold a large quantity of soybeans at harvest and continued to be liberal sellers after harvest so that processors' stocks did not reach a peak until later than usual. As soybeans are processed and exported, the

Table 1. — Month-End Net Position of Reporting Hedgers, Reporting Speculators, and Nonreporting Traders, All Soybean Futures, July 1958 to August 1961

Month	Nonreporting traders	Reporting speculators	Reporting hedgers
		(thousands of bushels)	
1958			
July	+740	+5,810	−6,550
August	−289	+6,145	−5,856
September	+2,954	+9,314	−9,314
October	+36,914	+15,438	−52,352
November	+40,431	+15,378	−55,809
December	+32,956	+13,599	−46,555
1959			
January	+30,699	+11,507	−42,206
February	+22,828	+11,329	−34,157
March	+17,664	+8,331	−25,995
April	+14,192	+5,232	−19,424
May	+9,403	+432	−8,971
June	−537	+3,102	−2,565
July	+10,651	+6,025	−16,676
August	+1,636	+3,815	−5,451
September	+3,595	+1,072	−4,667
October	+30,576	+12,603	−43,179
November	+67,840	+8,101	−75,941
December	+60,195	+11,127	−71,322
1960			
January	+63,906	+7,677	−71,583
February	+57,219	+1,621	−58,840
March	+44,436	−1,627	−43,836
April	+29,083	−2,271	−26,812
May	+26,061	−7,826	−18,235
June	+13,577	−5,069	−8,508
July	+6,190	+3,640	−9,830
August	+8,187	+2,570	−10,757
September	+21,704	+5,181	−26,885
October	+61,104	+29,308	−90,412
November	+68,857	+21,833	−90,690
December	+62,357	+37,130	−99,487
1961			
January	+83,052	+34,940	−117,992
February	+81,173	+41,721	−122,894
March	+71,776	+38,709	−110,485
April	+50,605	+33,797	−84,402
May	+36,243	+20,793	−57,036
June	+12,849	+16,907	−29,766
July	+7,868	+4,395	−12,263
August	−88	−970	+1,058

+ = Long
− = Short
Source: USDA, CEA

hedgers buy back the futures contracts that they sold in hedging. This accounts for the pattern of decline in their short positions.

The long positions opposite the short positions of hedgers are held by speculators. The succession of events is that, at harvest, farmers

Net positions of the three categories of traders in soybean futures for the three years from mid-1958 through mid-1961. The data for this figure are found in Table 1. (Fig. 1)

sell to country elevators, who sell to processors and others, who hedge. Hedging is, in effect, a matter of selling to speculators. Thus risks of price change are shifted from farmers, through the marketing system, to speculators in futures markets.

It is useful to regard the reporting speculators as a balance wheel in the open interest. They pick up the risks that the nonreporting traders do not want, and they supply the nonreporting traders by going

short when the supply of hedges is less than nonreporting traders wish to be long.

The major part of the hedges is carried by nonreporting traders, who are, in fact, the speculating public. A special survey[1] of the open contracts in soybeans futures as of November 30, 1959, listed the occupations of 7,311 speculators active on that day. About 1,000 of them were directly connected with grain marketing as operators of elevators, exporters, processors, etc. The largest single group, 1,617, were farmers. There were also doctors, dentists, lawyers, chemists, engineers, teachers, television operators, bankers, salesmen, clerical workers, machinists, private detectives, housewives, students, retired, and unemployed, to mention only part of the list. These are the risk takers.

The essence of this discussion is to point out that the main thing futures trading does is to shift risk from hedgers of cash inventories to speculators in futures markets. Futures market speculators are essential to the operation of a hedging system. It is generally agreed that hedging reduces the cost of operation of grain marketing firms and processors. The system succeeds in shifting risks of price variation from people who are not in a position to speculate to people who are in a position and wish to speculate.

Pricing The speculative pricing function of futures trading is a secondary or derived one. But it is perhaps a more important function than risk shifting. Speculation should and does influence prices. Prices of seasonally produced commodities are speculative. The supply that is harvested during a short period of time must be made to last until the next crop is available. At the same time, the supply must be used down to a small carryover to the following year. This job of rationing the supply is a function of the price. There is one and only one average price that will make the supply just clear the market. If the price is held at higher levels, some of the users will be priced out of the market and there will be more than a necessary carry-over. If the price is held at lower than the equilibruim level, additional users will be drawn into the market and the supply will not last until the next harvest.

When allowed to work, market prices effectively accomplish the necessary job of rationing. No matter how short the crop, we never run out. Enough users get priced out of the market to leave something when the new crop is harvested. No matter how large the increase in the crop, new users are brought into the market by bargain prices; and

[1] USDA, CEA, Soybean Futures Trading, 1959 to 1960, p. 17.

even though there is a substantial carry-over, the expanded use makes an inventory to add to the supply for the next year appear desirable.

From this explanation it is apparent that at all times there are two kinds of demands. One is demand for current use and the other is demand for inventory to be used at a future time. If it appears that the supply is short at the current price, the demand for inventory increases, bidding prices up and slowly down the rate of use. If it appears that the supply is so large that it will not be used before the next harvest at the current price, the demand for inventory decreases, reducing prices and speeding up the rate of use.

At any given time the price is the result of interplay of the two forces and just strikes a balance between them. Thus, in the short run the price depends on the decisions of inventory holders. The question that an inventory holder asks it simple: "Shall I sell or hold?" His answer depends upon whether he thinks the price is going up or down. The inventory holder must forecast prices. He must look ahead and appraise the effect on price of changes in supply and in requirements for various uses. This is a very complicated and difficult job, as is well known to all people, farmers in particular, who have tried to unscramble the price outlook.

At any given time the price at which inventories are held out of use is the result of a balance of judgments of the holders of inventories. On the one side the people who think the price is going up hold, and on the other side the people who think the price is going down sell. If the balance of judgments is that the price is going down, selling quickly puts it down, and vice versa. All things that are expected to affect the price in the future are quickly discounted into the current price so that it reflects the composite judgment of the equilibrium price. Thus the composite judgment of all of the market participants is that the price will not change.

Obviously they are always wrong. Prices do change. This is because some things are not yet foreseeable, because the market does not foresee all of the things that are foreseeable, and because the market does not weigh properly the things that it does foresee. If the market were omniscient, able to foresee all things and weigh them properly, the price would never change. Changes in price thus are the result of speculative error.

The owners of inventory are speculators. They have taken a position at the risk of loss and in the hope of profit. He who holds an inventory is speculating. He is pitting his judgment about the direction of price change against the market by deciding to hold rather than sell. If he is right, he makes money; if wrong, he loses.

This is a somewhat different concept of profit and loss than the usual accounting one. Here, profits and losses may be finally realized or may be interim profits and losses that are finally offset by larger price changes in the opposite direction. Such interim profits and losses are nonetheless real. If the trading is in futures, losses must be covered by the posting of additional margin, and profits can be withdrawn before the trade is closed out. Farmers should reckon interim profits and losses from storing cash grain from the price that they could have obtained when the grain was placed in storage.

The most important speculators are farmers. They hold more of the inventory than any other group. Probably the second most important inventory-controlling group are speculators in futures markets. Basically they are long the amount that hedgers are short. Hedgers, being both long and short, do nothing more than act as custodians. Until users outbid speculators, hedgers must hold grain in store. The hedgers buy back their short futures contracts so that they can sell the cash commodities to users.

In addition to being a risk-shifting medium, futures trading is a system of discounting expectations into current prices. The test of a speculative market is in price variation. It must work toward stability of price. The test of a particular system of speculative pricing, such as futures trading, is in whether the resulting price variation is greater or less than it would be in the absence of the system.

The effect of futures trading has been much argued, but with no final conclusions.[1] One thing, however, is clear: The price of grain at harvest is higher with futures trading than it would be without it. As is clear from Fig. 1, speculators buy from hedgers at harvest. They pay more than the price at which hedgers are willing to accept the risk of ownership. If this were not so, hedgers would not hedge.

A frequent question is, "Why should the hodgepodge of people identified as the speculating public be qualified to establish prices?" What a speculator is trying to do is forecast price. If he does this better than the average of all the people who speculate, he will make money; if not, he will lose. Losing money is a discouraging thing. The chronic losers quit, and those who profit stay and trade in larger volume. Futures markets act as continuous spell-downs of speculators. It is not illogical that a physician, teacher, or machinist may be a competent forecaster — it is just unlikely. But very few of all people in a particular occupation speculate in commodities. The market has sorted them out and kept only the good ones.

[1] For a fairly complete discussion, see Bakken, Gray, Paul, and Hieronymus, *Futures Trading Seminar,* MIMIR, Madison, Wisconsin, 1960, Part 3.

CASH AND FUTURES PRICE RELATIONSHIP

The key to the effective use of futures markets by farmers is understanding the relationship of cash and futures prices. While these relationships are variable, they are systematic so that they can be forecast within fairly close limits.

Basis The basis is the price of cash grain at the delivery point in relation to the nearby or dominant futures. If in February we say that the corn basis is 2 over, we mean that No. 2 yellow corn at Chicago is selling for 2 cents more than the March futures.

Statements of basis can be modified by location and by time. For example, we can say that the east-central Illinois basis is 7 under, or the New Orleans basis is 14 over, in these instances designating a location different from the delivery point but again referring to the nearby future. It is sometimes useful to refer to the cash price in relation to a more distant future. For example, in October we may be concerned with the price of soybeans at local elevators in relation to the May future. In this case we would say that the farm basis is 20 under the May. The important basis is the one that applies to the individual user. It is important that the user of futures markets become familiar with the changes in his own local basis.

Cash and futures prices During the delivery month, at the delivery point, cash and futures must be equal. If on March 1 cash corn were 5 cents below the March future, merchants would buy cash corn, sell futures, and make a profit of 5 cents. Such an obvious thing would be quickly erased by the actions of many people. Similarly if cash corn were 5 cents above futures, the users of cash corn would buy futures and take delivery as the cheapest source of supply. Thus, lacking demand, the cash would quickly decline.

But the cash price is typically higher than the futures at Chicago during the delivery month. This fact does not violate the principle stated above. It results from certain technical differences in the value of cash grain in boxcars and grain taken on delivery of futures contracts. These differences have to do with the time of delivery, quality of the grain, place of delivery, loading-out charges, and freight rate structure. This Chicago difference is not of concern to farmer users of futures.

The forcing of cash and futures together during the delivery month forces futures prices to reflect values that exist in the trading of cash grain. Because of the delivery provision for futures contracts, prices

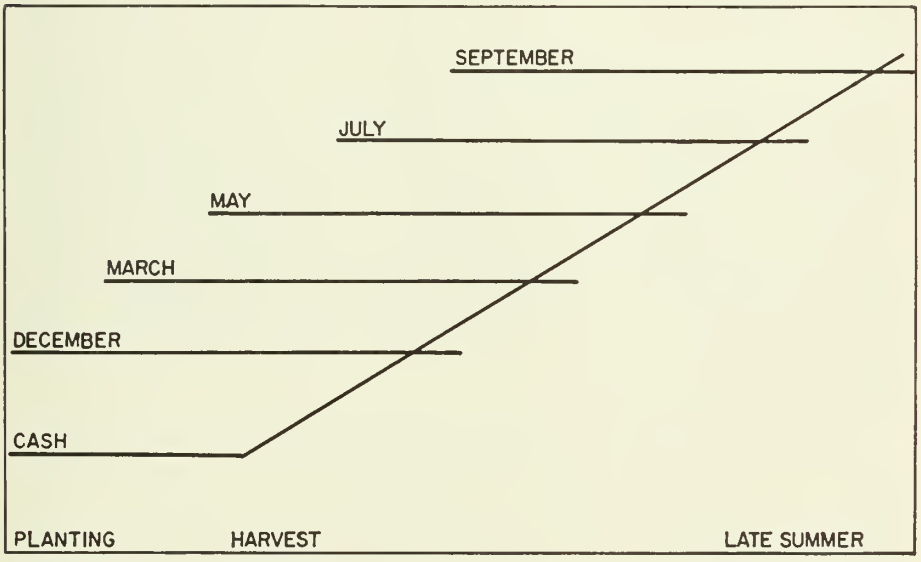
of cash and futures, and futures for different delivery months, are functionally related.

Theory of the carrying charge The theory of the carrying charge is that, because there are costs of storing cash grain and there are virtually no costs in holding futures contracts, cash prices gain in relation to the futures during the storage period. Costs of storing cash grain include the investment in and depreciation of the structure; operating costs, such as labor, repairs, and maintenance of quality; property taxes; and interest on funds tied up in cash grain. Thus the price of grain at harvest should be below the futures by the cost of storing until the maturity of the future.

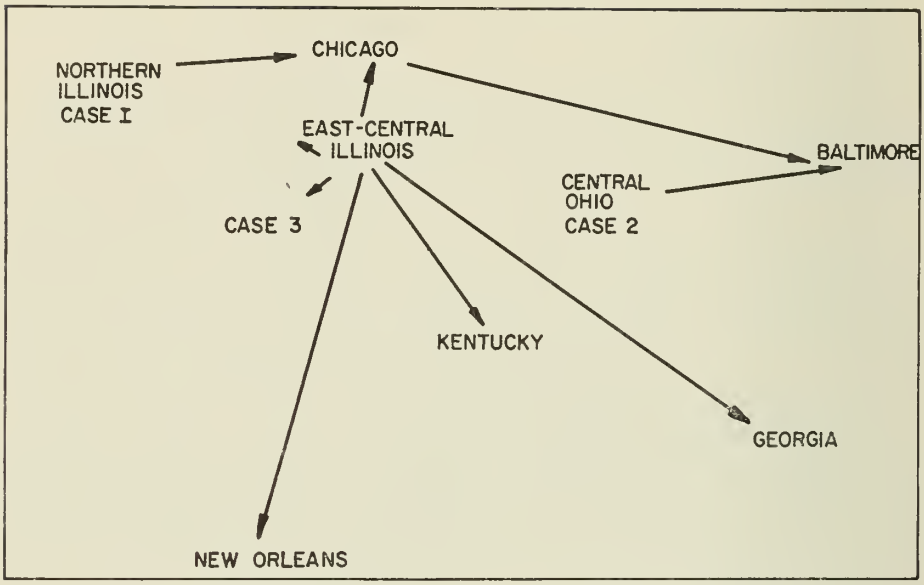
Fig. 2 illustrates this theory. It relates to corn. The price during the planting and growing season is below the December future by the cost of storing from harvest until December. The December, in turn, is below the March by the cost of storing from December to March, etc.

Locational differences The second part of the theory of the relationship of cash and futures is that the difference in prices at locations away from the delivery point depends upon transportation cost and the place of the outside location in the flow stream of grain.

Fig. 3 illustrates three major kinds of locational differences. The first case is one in which the local price is under the delivery point price



An illustration of the basis theory as it relates to corn. The price of grain at harvest is below the futures by the cost of storing until the maturity of the future. (Fig. 2)



An illustration of the location theory showing three different kinds of locational differences. (Fig. 3)

by the cost of transportation to the delivery point (when the flow of market grain is to the delivery point market). This illustration involves corn from northern Illinois. The main flow of corn from the area is to Chicago. Thus the local price tends to be equal to the Chicago price minus freight. This is the most regular and dependable basis relationship.

The second case is that of equalization to a common destination. Let us say that during most of the year Chicago ships corn to Baltimore for export and that central Ohio points also ship corn to Baltimore for export. The price in central Ohio will be higher than the Chicago price by the difference between the freight cost between Ohio and Baltimore and Chicago and Baltimore. This relationship holds exactly only so long as both points ship to Baltimore (or some other common destination). If a local shortage develops in Ohio, corn will be priced too high to move to Baltimore and the Ohio price will exceed Chicago by a larger than usual amount.

The third case can be called multiple destination. It is best illustrated by the situation in east-central Illinois. Corn moves from this area to many major destinations, including Illinois processors, Peoria, St. Louis, Kentucky, Georgia, New Orleans, Baltimore, and Chicago. These are the most important ones, but there are others. When Chicago is the best outlet, the price is under Chicago by the transportation cost.

When other destinations are better, the price will be closer to Chicago than the transportation cost. Out of the multiplicity of destinations can come considerable price variation in relation to Chicago. Even so, this variation nearly always remains within a narrow and predictable range.

Actual basis Having looked at the theoretical pattern of the basis and price relationships among the various futures contracts, we now turn our attention to the actual structure. Table 2 and Figs. 4 and 5 show the prices and price interrelationships for corn during the 1960 to 1961 crop season. Fig. 5 is the same as Fig. 4 except that the July future was set at zero and the other prices were plotted in relation to it. This process takes out the variation in the level of corn prices and makes possible a clear picture of the interrelationship.

The first general observation is that cash and futures prices tend to move up and down together. Week-to-week changes are nearly always in the same direction, and major changes are of the same general magnitude. The second general observation is that the general pattern of the basis chart (Fig. 5) is the same as that of the theoretical pattern (Fig. 2). At the same time there are major differences and a considerable amount of erratic behavior. We must concern ourselves with these departures from the norm.

At the outset of harvest, the price was discounted from the loan by an amount roughly equal to the cost of storage from fall until the end of July. The Chicago cash price was the usual 12 cents over the east-central Illinois farm price. The various futures were above the cash and were related to each other by approximately the cost of storage.

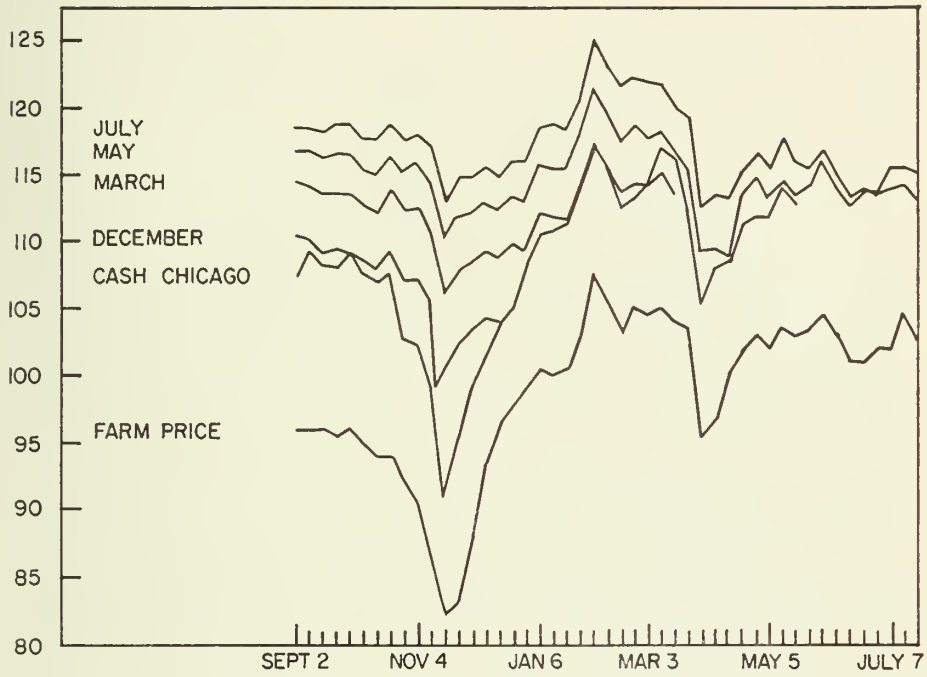
As we moved into harvest, it became apparent that the crop was larger than expected, so there would be a substantial crib overrun to be sold and stored off farms. The crop was also wet, further complicating the storage problem. The entire price structure declined. It should be especially noted that three things happened: the price went down, the spreads among the futures increased, and the cash discount under the futures increased. The decline in the price of July corn was the same as the decrease in level of prices, or 5½ to 6 cents. The widening of the spreads and the decrease in cash prices in excess of 5½ to 6 cents was really an increase in the going market price of storage. Put differently, the farm price decrease was 14 cents, of which about 6 cents was a decrease in price and 8 cents was an increase in the price of storing corn.

After the harvest low, the price level of corn varied considerably, but the price interrelationships were fairly consistent with the theoretical patterns.

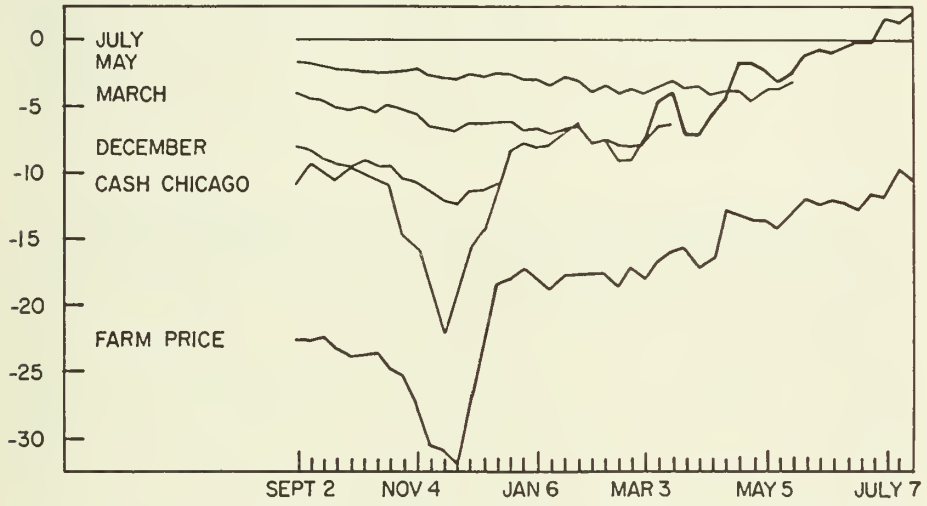
Table 2. — Prices of Cash Corn at Country Elevators, Cash Corn to Arrive Chicago, and December, March, May, and July Futures, Weekly, 1960-61

Date	East-central Illinois farm price	No. 2 Yellow to arrive Chicago	Dec.	March	May	July
1960						
Sept. 2	96	107½	110½	114½	116¾	118½
9	96	109¼	110¼	114⅛	116¾	118½
16	96	108¼	109¼	113⅝	116¼	118¼
23	95½	108	109⅜	113⅝	116⅝	118¾
30	96	109¼	109¼	113½	116½	118¾
Oct 7	95	107½	108⅝	112½	115¼	117⅝
14	94	107	108	112	115	117½
21	94	107¾	109¼	113⅞	116⅜	118¾
28	92	102¾	107⅛	112¼	115¼	117½
Nov. 4	90½	102¼	107¼	112⅜	115⅞	118
11	86½	99	105⅝	110½	114⅜	117⅛
18	82	91	100⅞	106¼	110⅛	113
25	83	95½	102⅜	107⅞	111¾	114¾
Dec. 2	88	99	103⅜	108½	112⅛	114¾
9	93½	101¼	104¼	109¼	112¾	115½
16	96½	103¾	104	108¾	112⅜	114⅞
23	98	107½		109¾	113¼	115⅞
30	99	108¼		109¼	113	116
1961						
Jan. 6	100½	110½		112	115⅝	118⅝
13	100	110¾		111¾	115⅜	118¾
20	100½	111¼		111½	115½	118¼
27	103	114¼		114	117⅞	120½
Feb. 3	107½	117¼		117¼	121⅛	125
10	105½	115½		115½	119⅝	123
17	103	112½		113⅝	117½	121½
24	105	113¼		114¼	118⅝	122¼
March 3	104	114½		114	117⅞	121⅞
10	105	117		115⅛	118⅛	121⅝
17	104	116		113½	116¾	119⅞
24	103½	112			115½	119⅛
31	95½	105½			109⅛	112⅝
April 7	97	108			109⅜	113½
14	100	108½			108⅞	112¾
21	102	113½			111⅜	115⅛
28	103	114¾			111⅞	116½
May 5	102	113¼			111⅞	115½
12	103½	114½			114	117⅝
19	103	113½			112⅞	116
26	103½	114¼				115⅜
June 2	104½	116				116¾
9	103	114				115
16	101	112¾				113¼
23	101	113¾				113¾
30	102	113½				113⅝
July 7	102	115½				113⅞
14	104½	115½				114⅛
20	103	115¼				113⅜

Source: Current market reports.



Prices and price relationships for corn during the 1960-61 crop season. Figures shown are weekly prices of cash corn at country elevators, cash corn to arrive at Chicago, and December, March, May, and July futures. (Fig. 4)



Prices and price relationships for corn during the 1960-61 crop season. The information given is the same as that in Fig. 4 except that the July future was set at zero and the other prices were plotted in relation to it. (Fig. 5)

It is thus apparent that basis behavior is generally consistent with basis theory but is specifically variable. Accordingly we have developed basis charts for the four principal Illinois-produced grains for seven crop years and have averaged them together to give a composite view. The results are shown in Figs. 6 through 9, and the data are included in Appendix Tables 1 through 4. In each case the first delivery month applicable to each crop year and the last month not affected by new crop conditions were used. The period for the basis charts extended from before planting for corn, soybeans, and oats and from January 1 before harvest for wheat. Thus each chart covers more than one year, and the time periods overlap. The delivery months used were: corn, December and July; soybeans, November and July; oats, July and March; and wheat, July and March. The use of only two months makes the charts as simple as possible to read.

The first delivery month was used for computing basis until the last day of the preceding month, when the basis computation was changed to the distant delivery month. That is, for corn the December future was set as zero, and the difference between the cash price and December was plotted until the last date shown in November. This basis is scaled on the left side of the chart. Then July was set as zero and above the December, set as zero, by the difference prevailing on the day the change was made. This basis is scaled on the right side of the chart.

For some weeks before the change from December to July was made, July was plotted in relation to December; and for some weeks (as long as it was traded) after the basis month was changed, December was plotted in relation to July. The charts for the other grains were made in the same way except for the difference in the delivery months.

Corn basis Fig. 6 shows the prices of corn (cash at the farm, December, and July futures) for each crop year, 1955 to 1961, and the average for the period. The top half of each chart shows the actual prices; and the bottom half, the basis as described above.

There are four observations to make about the actual prices. First, there is a tendency for the cash farm price to go up as the season progresses. But during this period it did not always go up, and the amount of the increase varied greatly from year to year. The average of the increase from the middle of October to July was 20 cents a bushel.

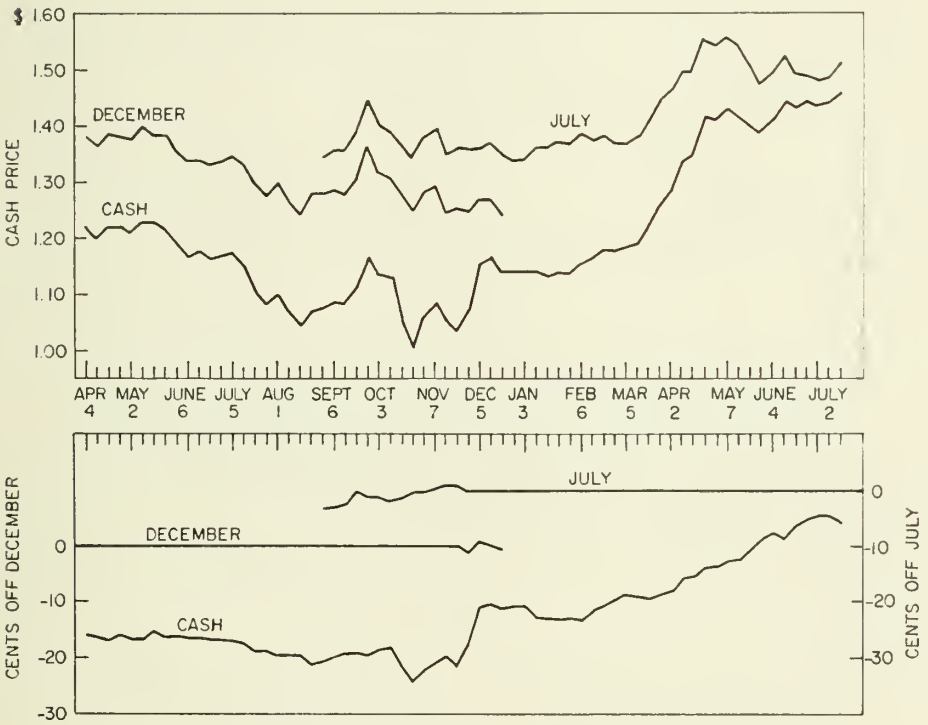
Second, in the area of overlap on the charts, futures prices tend

to be parallel, rising and falling together while the difference remains approximately constant.

Third, in the large price movements, cash and future prices move up and down by fairly comparable amounts, but they are not parallel in minor fluctuations and there is a tendency for the cash to go up more or decline less than the futures.

Fourth, the average variation in futures prices tends to be small. The erratic individual-year variations tend to average out to zero. This is consistent with the theory of speculative pricing that was discussed earlier. If all known factors are bid into current prices, then the average price tends to vary only by the cost of storage, which in futures contracts is essentially zero. Variations in futures prices result from capricious errors in speculative discounting.

This theory, while tending to be generally true, did not work out perfectly. The period under study was not long enough to allow the errors to fully cancel out. But there is a discernible central tendency for the futures price to decline about seven cents from the planting season to harvest and to increase about five cents into the spring or



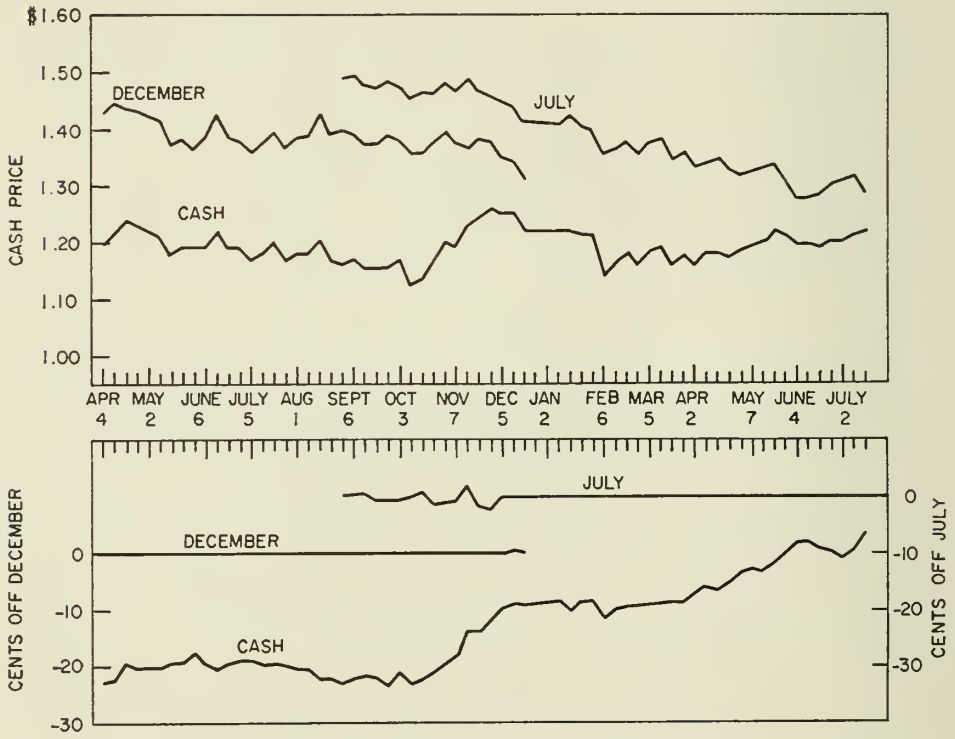
Corn. Weekly cash prices bid to east-central Illinois farmers, December and July futures, and basis chart, for 1955-56. (Fig. 6a)

summer. Is this a regular seasonal variation, or is it due to peculiarities of the period that should not be expected to repeat regularly in the future? This seven-year period was one of increasing per acre yield, generally more than increases that were expected. The changes in per acre yield from the preceding year's national average were:

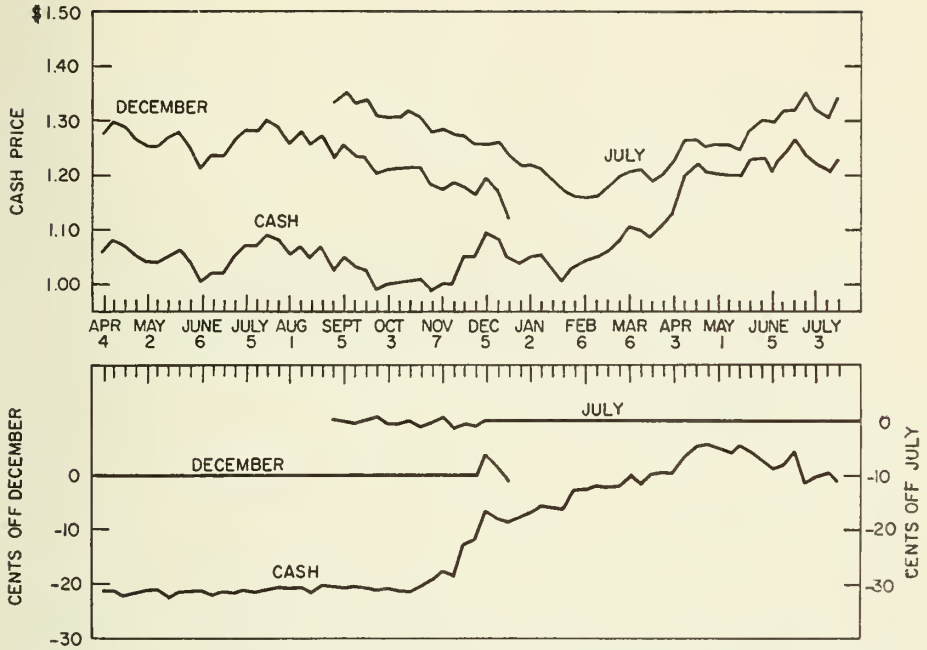
1955... +2.6	1958... +4.5	1960... +1.4
1956... +5.4	1959... + .3	1961... +7.5
1957... + .9		

If the market was expecting the same yield as the year before and it became apparent, as the season progressed, that it would be larger, we should expect a tendency for price to decline into harvest. Regular increases in yields are discounted into price early, and we should not expect this tendency to exist in the years ahead. The post-harvest increase was not large enough to be ascribed to anything other than chance.

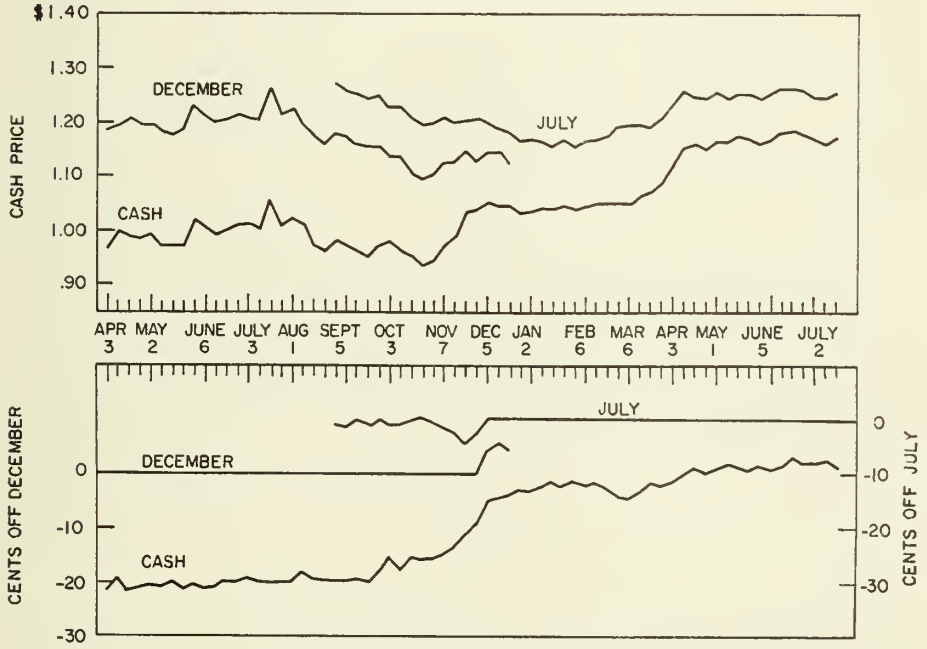
The first point of interest in the basis charts is their similarity. In broad outline they are all alike; no one of them deviates greatly from



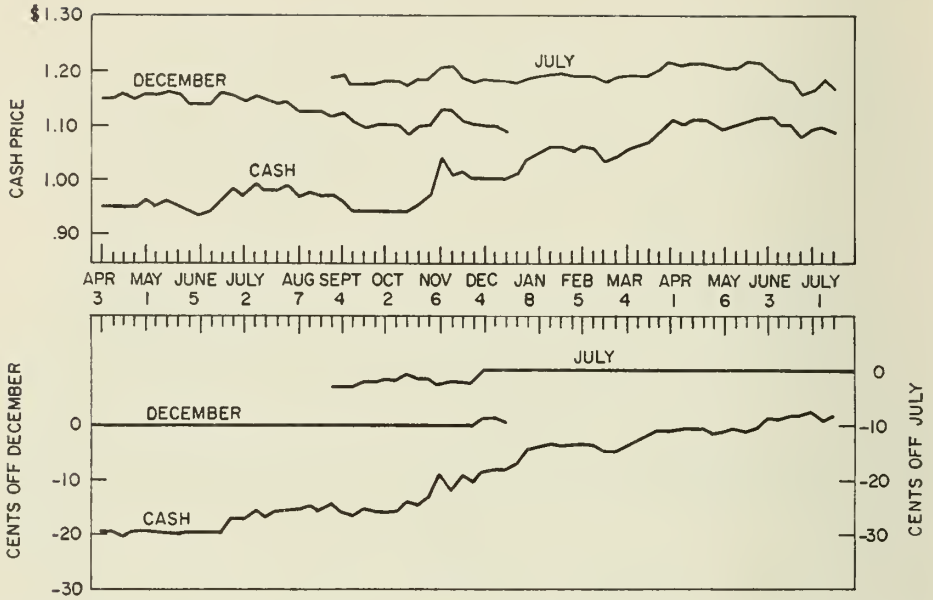
Corn. Weekly cash prices bid to east-central Illinois farmers, December and July futures, and basis chart, for 1956-57. (Fig. 6b)



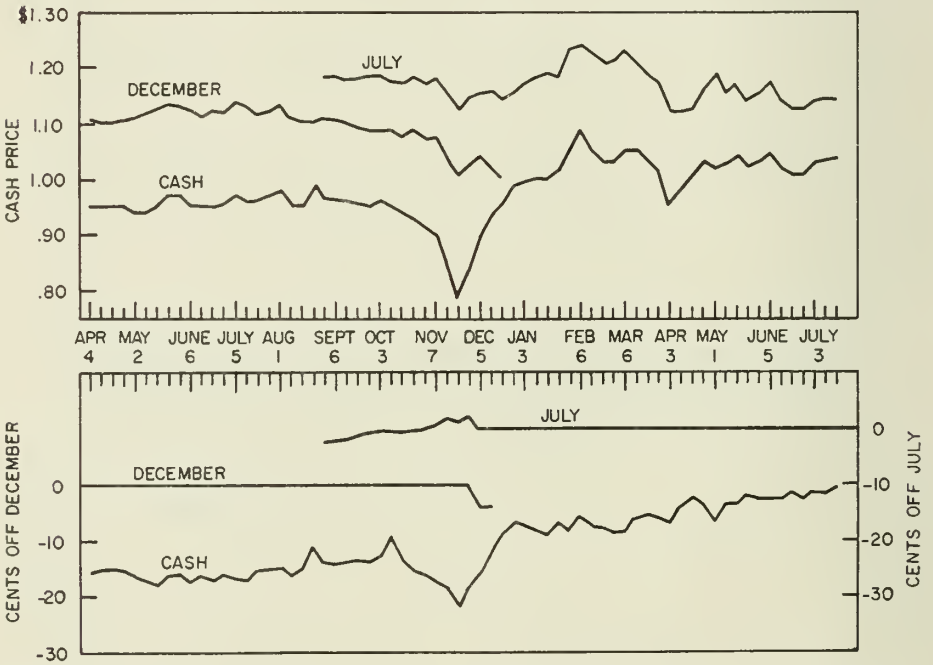
Corn. Weekly cash prices bid to east-central Illinois farmers, December and July futures, and basis chart, for 1957-58. (Fig. 6c)



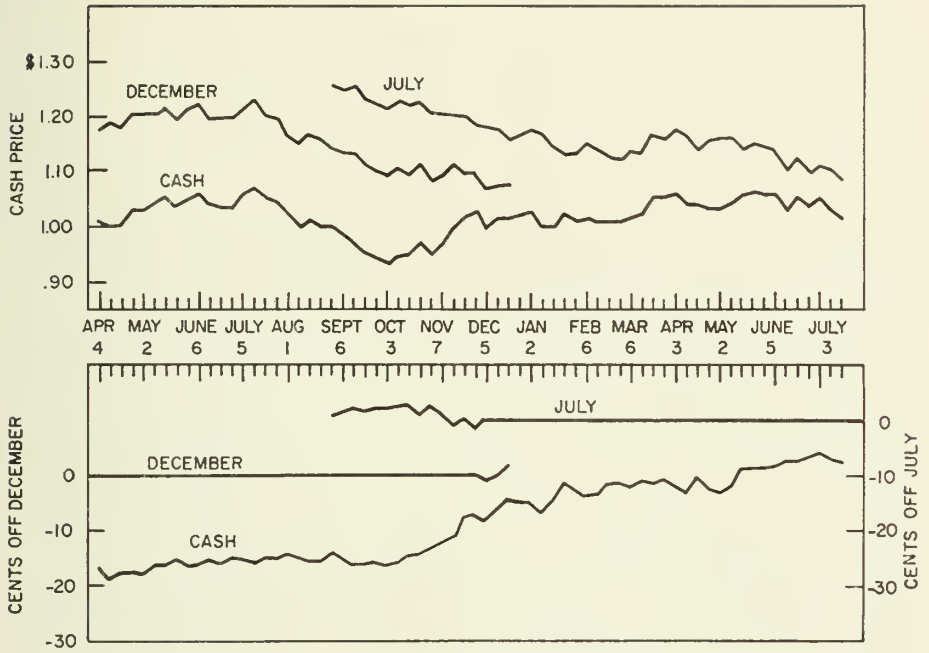
Corn. Weekly cash prices bid to east-central Illinois farmers, December and July futures, and basis chart, for 1958-59. (Fig. 6d)



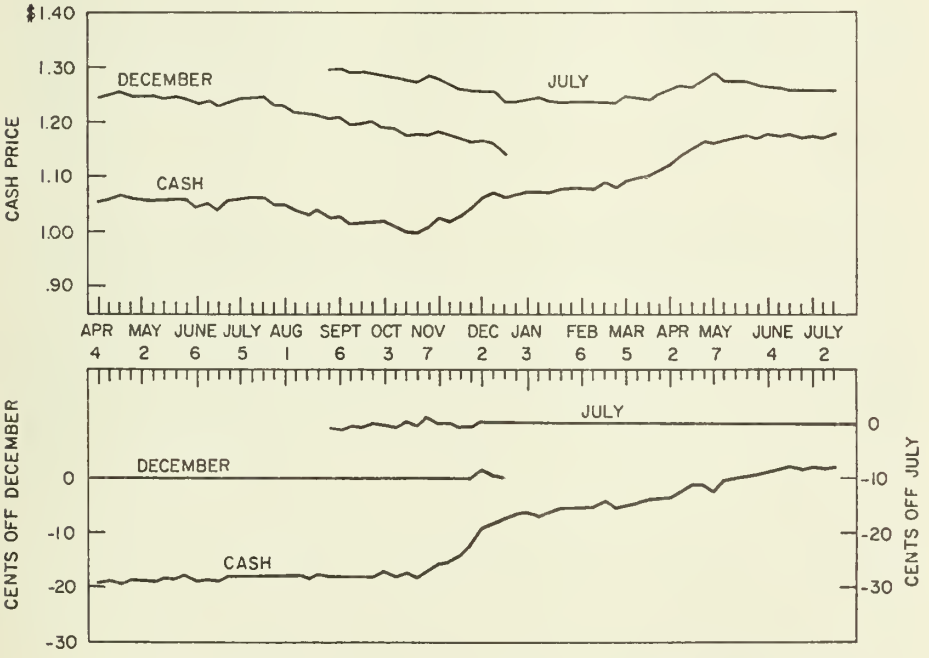
Corn. Weekly cash prices bid to east-central Illinois farmers, December and July futures, and basis chart, for 1959-60. (Fig. 6e)



Corn. Weekly cash prices bid to east-central Illinois farmers, December and July futures, and basis chart, for 1960-61. (Fig. 6f)



Corn. Weekly cash prices bid to east-central Illinois farmers, December and July futures, and basis chart, for 1961-62. (Fig. 6g)



Corn. Weekly cash prices bid to east-central Illinois farmers, December and July futures, and basis chart, average for 1955-62. (Fig. 6h)

the average for the period. The general outline is consistent with the theoretical basis shown in Fig. 2. During the planting and growing season, the basis was fairly stable and did not change in any systematic way. The individual-year variations tended to average out to no change (see the averages in Fig. 6g). From harvest to summer, the cash prices increased in relation to the futures in a fairly regular pattern. Also the spread between the December and July futures was quite consistent from year to year. Only once (1960) did it deviate more than one cent from the average of 11 cents.

The second major point is that there were substantial individual-year differences. There was a range of about 10 cents in the discount of cash from the December future during the harvest period. The smallest basis was about 15 cents and the largest about 25 cents. The average was 19 cents. This harvest basis was the item of greatest year-to-year variation; sometimes it widened and sometimes it narrowed during the harvest period. A characteristic common to all years and not consistent with our theoretical chart is the rapid narrowing of the basis immediately after the end of harvest. It happened every year and is most clearly seen in the averages.

Why were there differences between the actual and the theoretical charts and differences from year to year in the basis patterns? During the planting and growing season, basis is a speculative matter. Merchants and processors who buy grain before harvest typically hedge in futures markets. As they buy, they are not interested in the actual price of the grain, but in the price in relation to the future. When they think that the cash price is lower in relation to the futures than it will be at harvest, they buy cash and hedge in futures. Thus the preharvest basis is equal to the expected harvest basis. Changes before harvest are the result of speculative error in establishing the early basis.

Basis tends to be widest just at harvest and to narrow quickly after harvest. The amount of storage space available during a particular crop season is essentially fixed. The quantity of grain available to fill the space is greatest at harvest and decreases gradually as the crop is used. The basis represents the going market price for storage space. It is a supply-demand determined price. In our theoretical basis chart, we made basis a matter of the cost of storing grain. But space is not always paid cost. If the demand for use of space is great in relation to the amount available, the price (basis) may exceed cost. If, on the other hand, the demand for the use of space is small in relation to the amount available, the price may be less than cost. Storers will accept less than full cost rather than let space remain empty.

If harvest time marketings are smaller than anticipated, the basis narrows as harvest approaches and is relatively narrow at harvest. The fall of 1959 is a good case in point. Farmers were able to hold a high proportion of the crop on farms and simply refused to sell liberally at the prevailing 95 cents a bushel. The existing commercial storage space was not in vigorous demand, and its price was less than had been anticipated early in the season and lower than usual. It is interesting to note that the price level of corn, as shown by the July futures, did not go up. Holding at harvest resulted in a liberal supply later in the marketing season.

An opposite pattern occurred in 1960. The preharvest basis was relatively narrow. The crop turned out to be larger than had been anticipated and was unusually high in moisture. The market was glutted, the price declined, and the price of storage increased sharply (basis widened).

The difference between the December and July futures is the price of storage of corn at Chicago for the period from December to July. This tends to be widest at the end of harvest or the first of December. As we noted, there is a tendency for the storage price to be about 11 cents at the end of November. A notable exception occurred in 1960, when the difference, or spread, was 15 cents. It was unusually wide for the same reasons that the December basis was wide.

The end-of-season basis is of special interest. The east-central Illinois farm basis during July averaged 9 cents under during the seven-year period. Individual years were approximately as follows:

1956... 5 under	1959... 7 under	1961... 11 under
1957... 9 under	1960... 8 under	1962... 7 under
1958... 10 under		

This ending basis is fairly stable. It is a function of the relative supply of and demand for corn at Chicago and in downstate Illinois. As stocks at Chicago are large, the basis tends to be narrow; and as stocks at Chicago are small, the basis tends to be wide. If stocks of corn at Chicago are quite small, it becomes necessary to pull corn to Chicago from downstate, widening the basis to the full cost of transportation.

Soybean basis The soybean charts (Fig. 7) are similar to the corn charts. The actual prices were erratic, showing no regular behavior. On the average, the November soybeans showed little variation. Individual-year variation was substantial. The average of the July futures showed a substantial increase, amounting to about 18 cents a bushel. But if we look at the individual years we find that the predominant trend was downward in three years, up moderately in one year, up strongly in

two years, and very stable one year. A long position in July soybeans would have made money half of the time and lost money half of the time. However, the profits would have averaged much more than the losses.

The failure of the futures to average out to zero, as it theoretically should, can be ascribed to two causes: First, the period was too short for the averages to be meaningful. Such a short period should not be used as a basis for judging long-run tendencies. Second, the market has not yet come to appreciate the impact of a short supply of soybeans. It takes a large price increase to get the necessary adjustments in use when soybean supplies are reduced moderately.

In broad outline, the basis charts are much like those for corn, but they vary considerably in detail in individual years. The same general forces were at work in all of the years, but these forces varied in intensity and hence in their impact on basis patterns.

The preharvest basis tended to be about the same from year to year, with no major variations in most years. There were sharp increases in the discount of cash from futures at harvest in 1956 and 1957. In 1960 the basis narrowed as farmers were slow to sell at less than $2. The market as a whole was not aware of the impending shortage, and the futures did not move up. The slow selling by farmers reduced the need for off-farm storage. Accordingly there was a reduction in the going market price for storage (narowing of the basis).

There was the same tendency for a quick rise in the cash price relative to the futures immediately after harvest. This again underscores the fact that basis is a competitive market price.

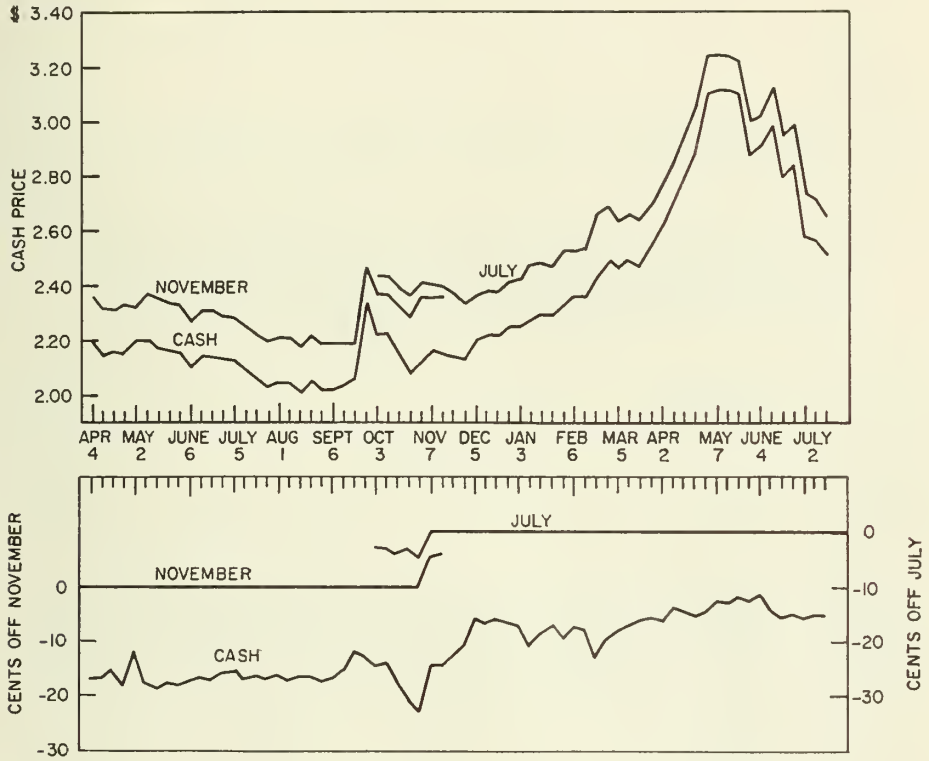
The differences between the November and July futures at the end of October were:

1955... 5¼	1958... 12¼	1961... 11⅛
1956... 11	1960... 13¾	Average... 10⅝
1957... 9¾	1959... 11½	

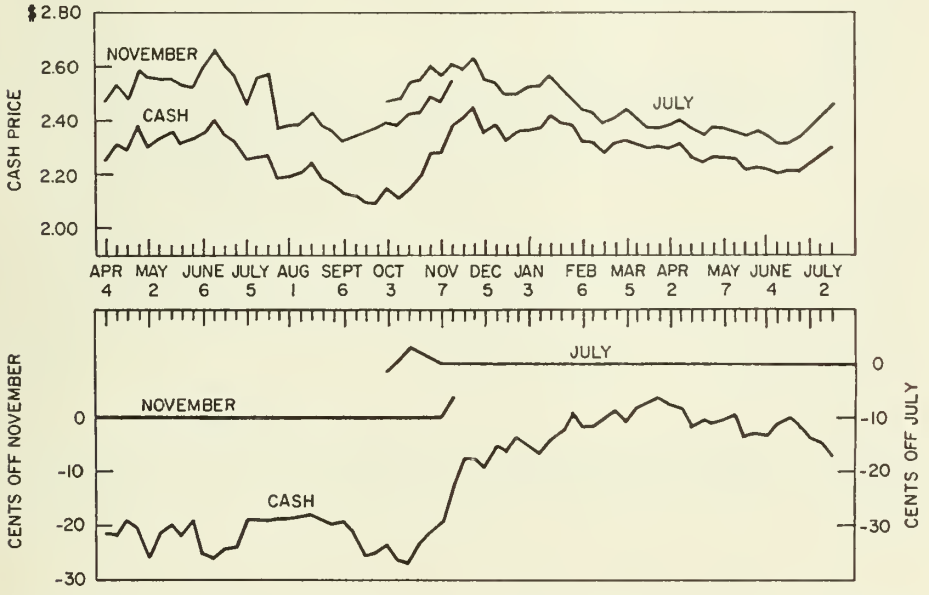
Because the 1955 difference was substantially smaller than the others, we should judge that the average of 10½ understates the real tendency. Twelve cents is probably a more representative number.

The cash in relation to the July futures during July was:

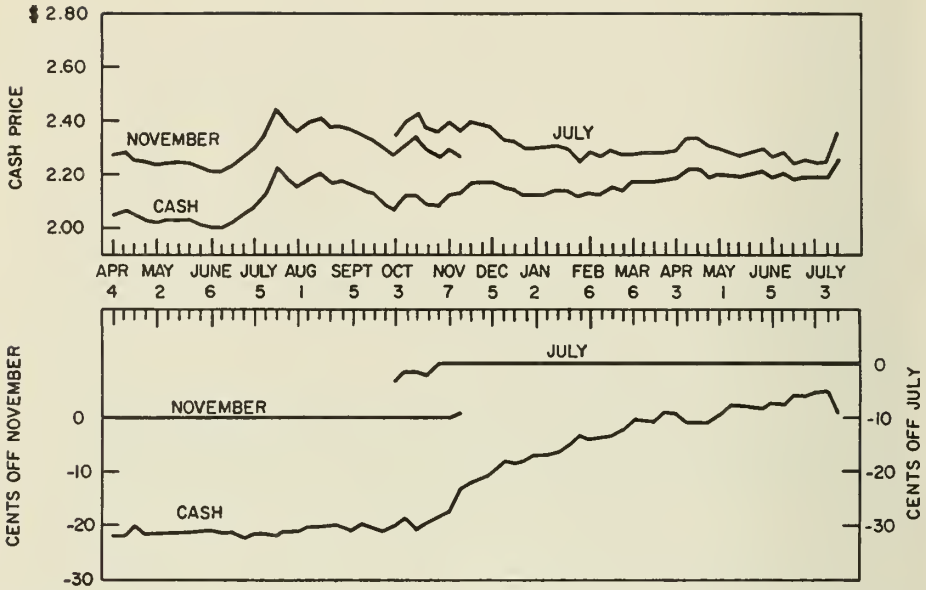
1956... 15⅜ under	1959... 6 under	1962... 9 under
1957... 15 under	1960... 8 under	Average... 9 under
1958... 6⅛ under	1961... 4 under	



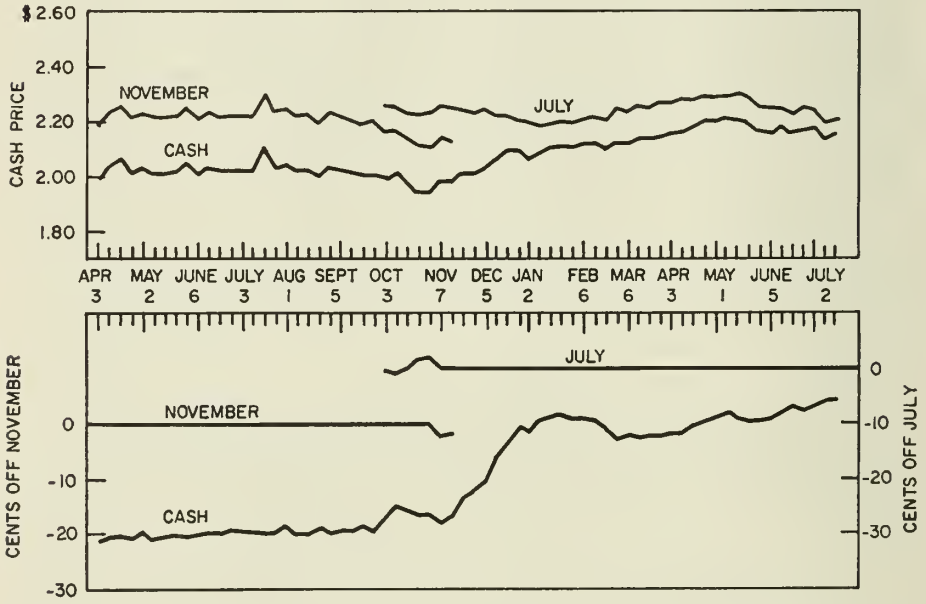
Soybeans. Weekly cash prices bid to east-central Illinois farmers, November and July futures, and basis chart, for 1955-56. (Fig. 7a)



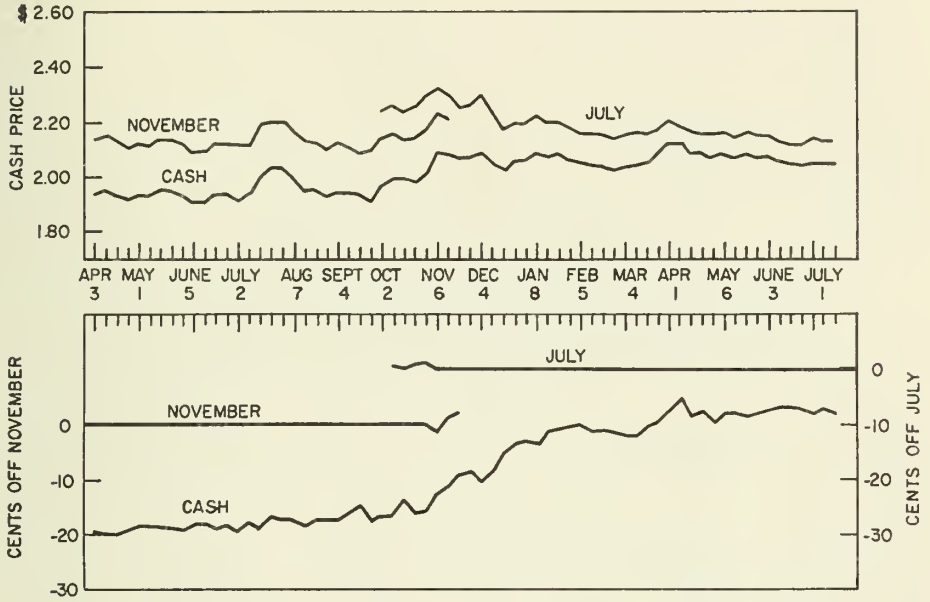
Soybeans. Weekly cash prices bid to east-central Illinois farmers, November and July futures, and basis chart, for 1956-57. Fig. 7b



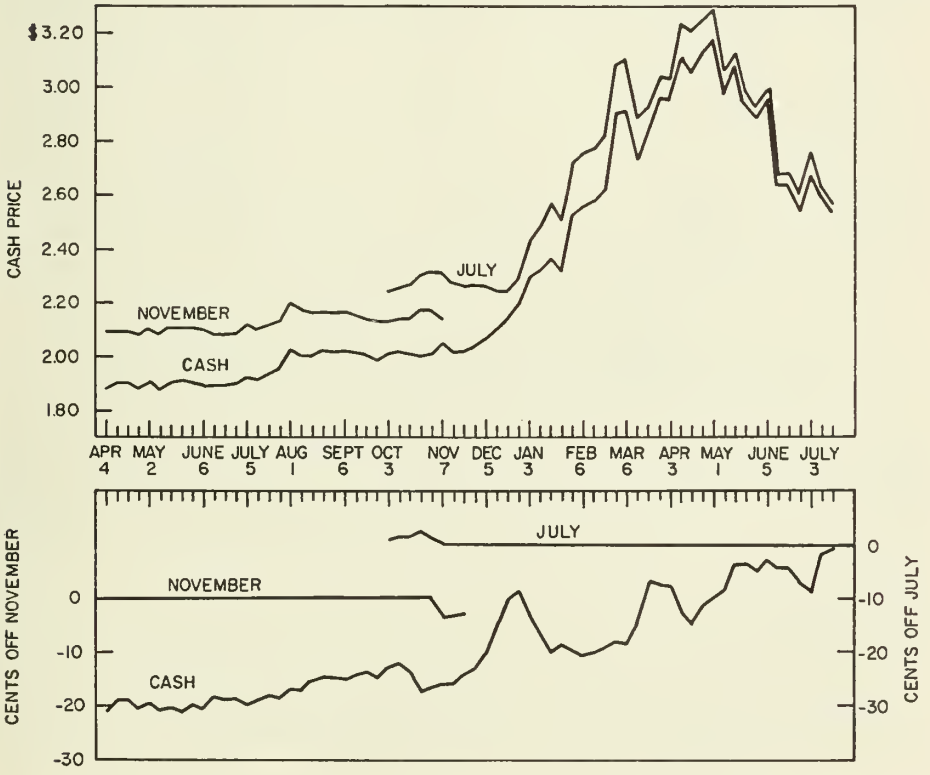
Soybeans. Weekly cash prices bid to east-central Illinois farmers, November and July futures, and basis chart, for 1957-58. (Fig. 7c)



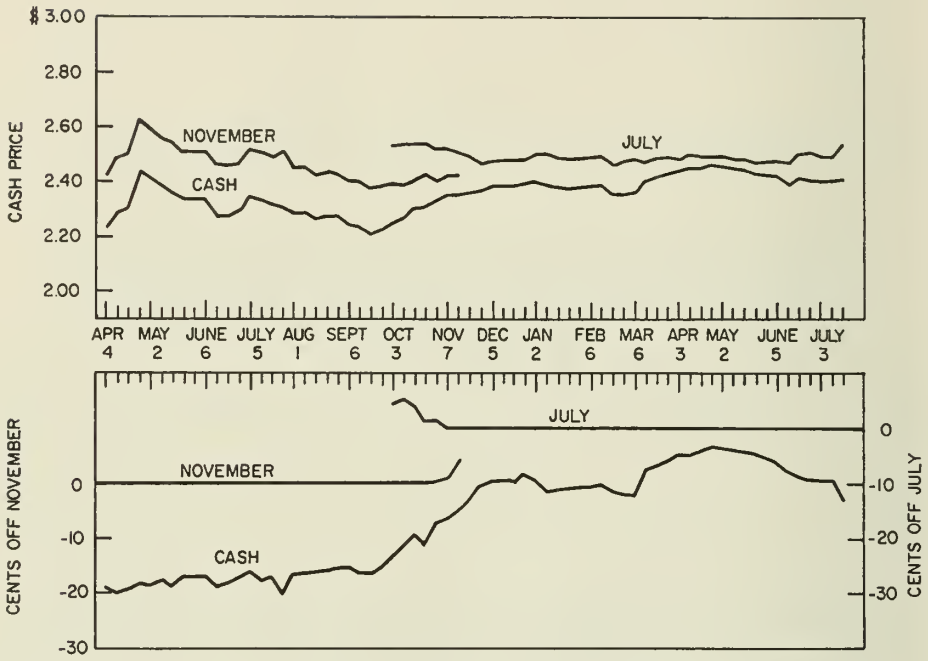
Soybeans. Weekly cash prices bid to east-central Illinois farmers, November and July futures, and basis chart, for 1958-59. (Fig. 7d)



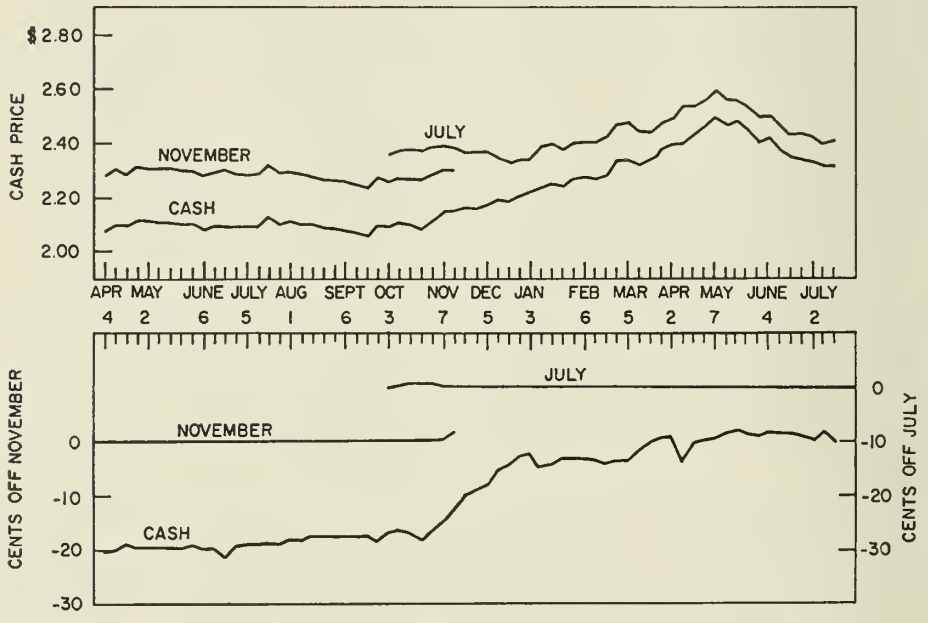
Soybeans. Weekly cash prices bid to east-central Illinois farmers, November and July futures, and basis chart, for 1959-60. (Fig. 7e)



Soybeans. Weekly cash prices bid to east-central Illinois farmers, November and July futures, and basis chart, for 1960-61. (Fig. 7f)



Soybeans. Weekly cash prices bid to east-central Illinois farmers, November and July futures, and basis chart, for 1961-62. (Fig. 7g)



Soybeans. Weekly cash prices bid to east-central Illinois farmers, November and July futures, and basis chart, average for 1955-62. (Fig. 7h)

The first two were larger than the last four. There were two reasons for this difference: First, during the early part of the period, stocks were not built up at Chicago. Accordingly, it was necessary to attract soybeans from a considerable distance from Chicago to satisfy local needs. Thus the country price had to discount the Chicago price by freight to Chicago. In recent years large stocks have been regularly accumulated at Chicago during harvest. This has tended to hold the country price high in relation to Chicago during the latter part of the year. Such accumulation is likely to take place in the future.

Second, during the early part of the period it was standard practice to trade No. 2 yellow soybeans as the standard grade, but in recent years the trading has been based on No. 1 yellow. The Chicago futures contract was for No. 2 yellow. The result of this change was to increase the country price relative to Chicago. When the Chicago futures contract is changed to a No. 1, this gain will be lost.

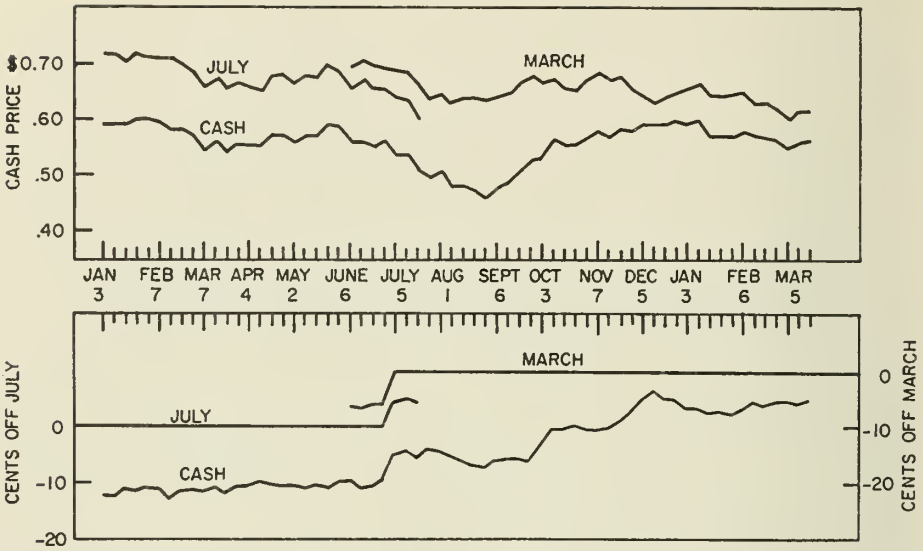
On balance we are disposed to regard 7 cents as a representative discount of the country price under the July futures during July.

One further point of interest in the soybean charts is the erratic postharvest basis pattern in 1960 to 1961. The basis behaved until January, when it widened. It widened again in April and in June. The first big, rapid rise in the soybean price came in January. The country price failed to follow the futures up. Farmers did not believe that soybean prices would go up so much and therefore sold large quantities. Processors did not believe it either and failed to follow the futures up with their bids. The April basis reaction occurred during the final upsurge of soybean prices. The reasons were similar. The basis widening during June was part of the downward race in price. Under the rules of the exchange, future prices can fall only 10 cents a day. There is no limit on the possible decline in cash prices.

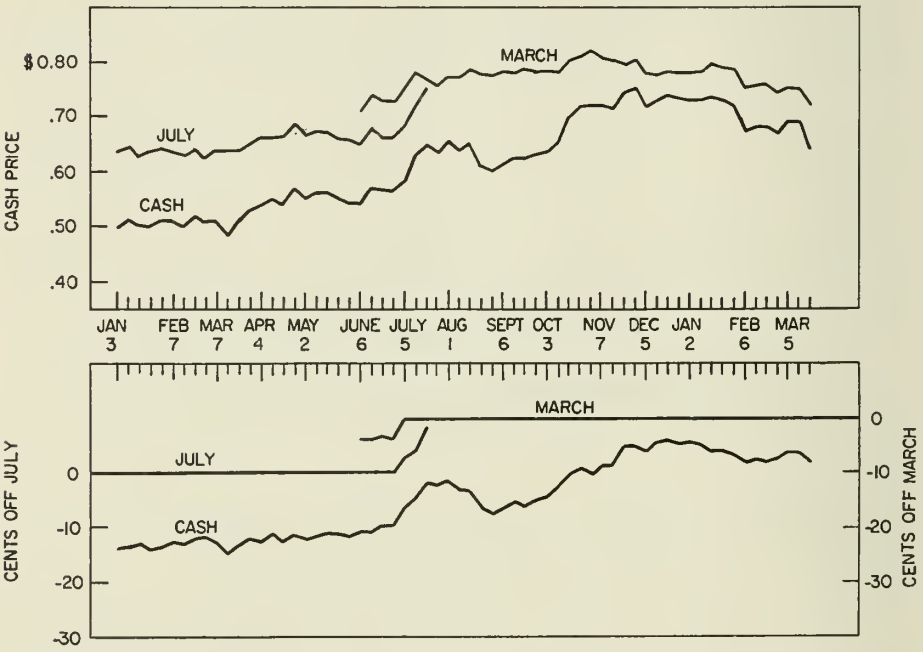
The appropriate conclusion is that basis tends to be erratic in years when price changes are large and rapid but finally follows its usual pattern.

Oats basis The prices of oats were erratic. The variations in futures in individual years tended to average out to zero. The only discernible repetitive pattern was a decline from January to March.

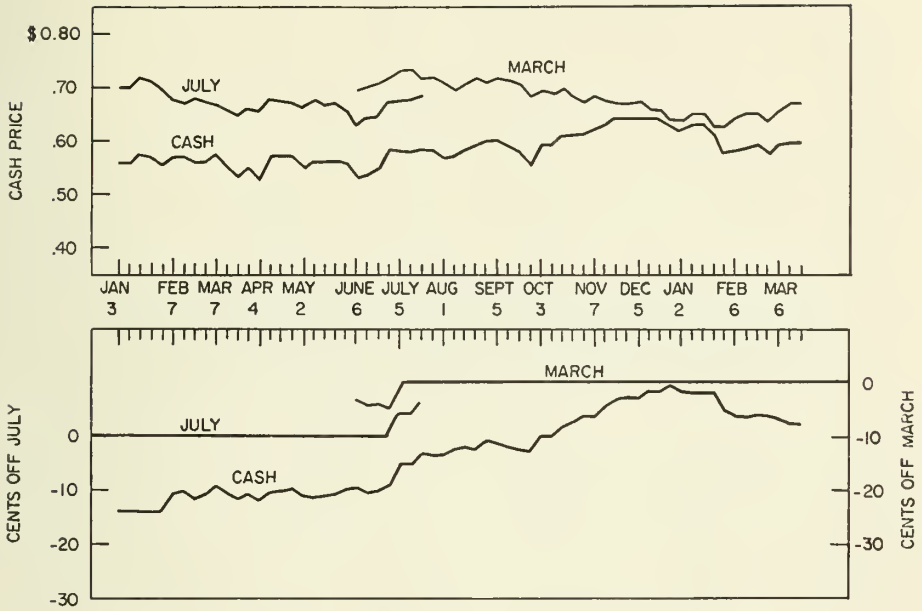
The basis patterns were similar in broad outline in each of the years; yet there were significant year-to-year differences. The first outstanding point was the tendency for the basis to narrow moderately from January to harvest. The seven years from 1955 to 1962 were a period of generally declining oat production. Usually oat plantings and



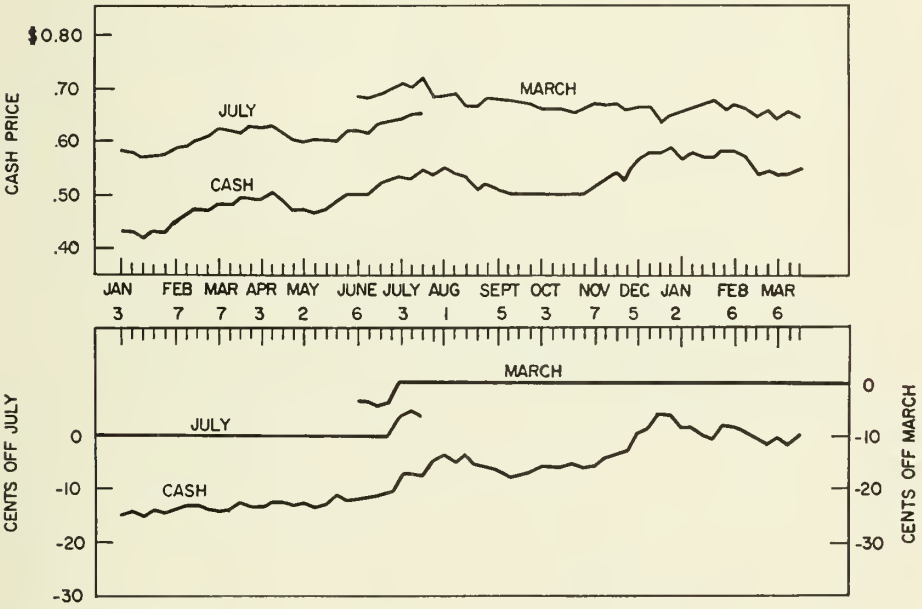
Oats. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1955-56. (Fig. 8a)



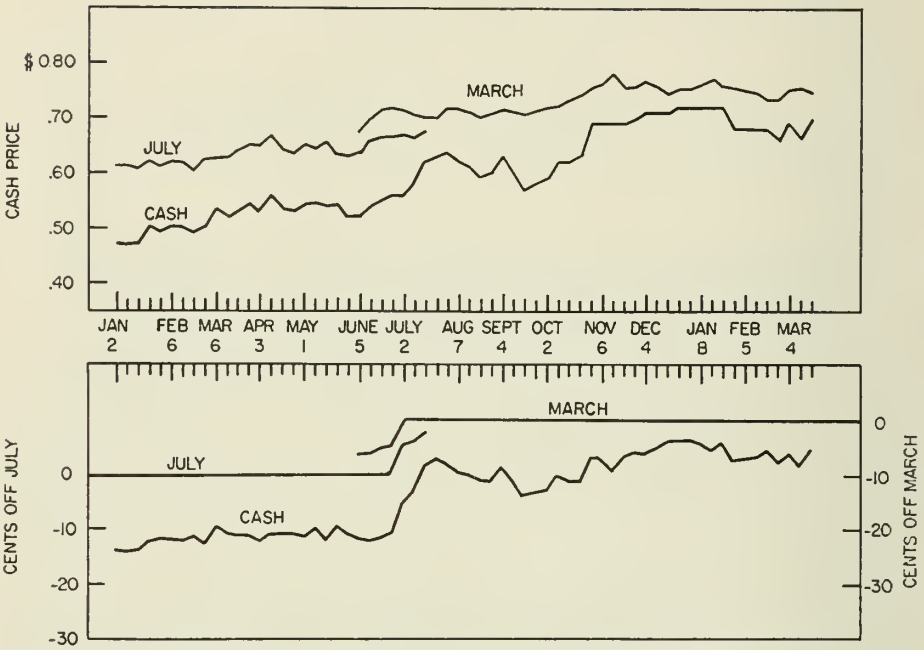
Oats. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1956-57. (Fig. 8b)



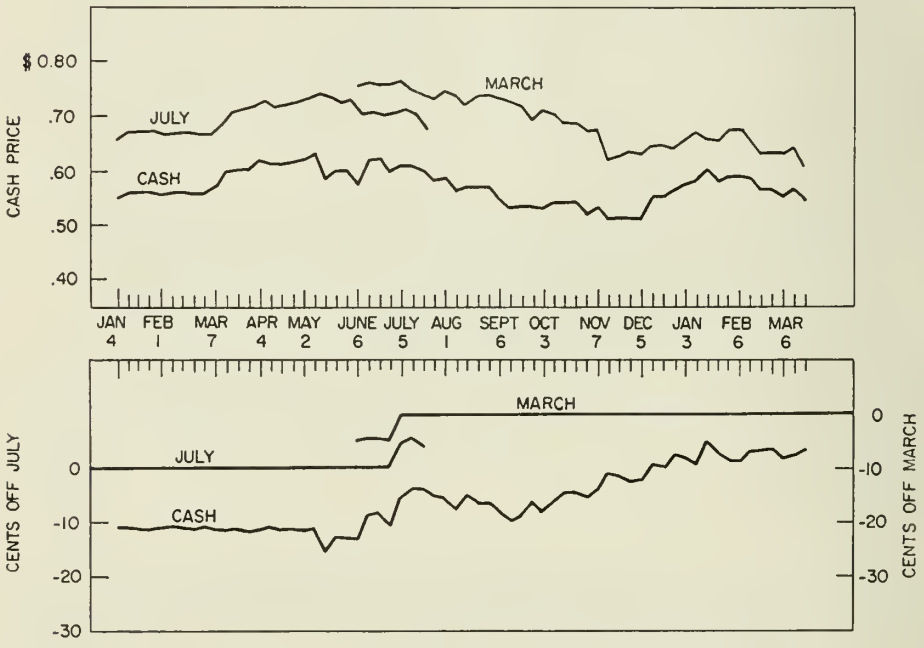
Oats. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1957-58. (Fig. 8c)



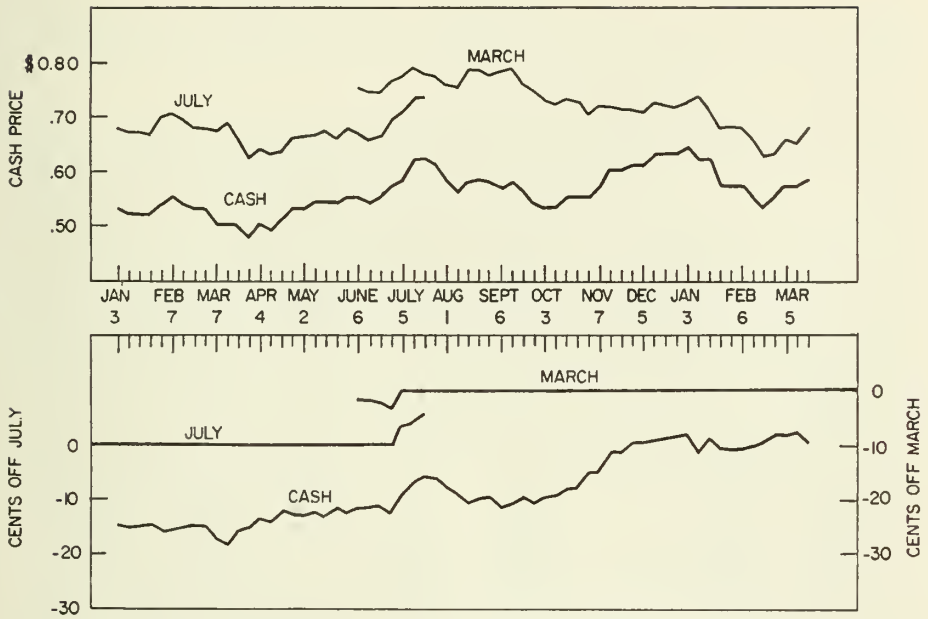
Oats. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1958-59. (Fig. 8d)



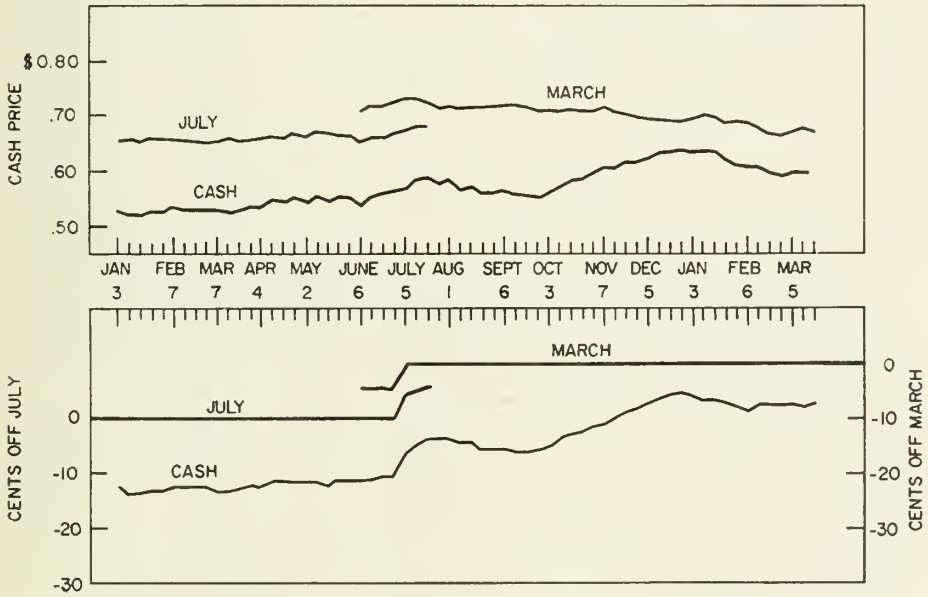
Oats. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1959-60. (Fig. 8e)



Oats. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1960-61. (Fig. 8f)



Oats. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1961-62. (Fig. 8g)



Oats. Weekly cash prices bid to east-central Illinois farmers, November and July futures, and basis chart, average for 1955-62. (Fig. 8h)

production turned out to be smaller each year than in the preceding year. This accounts for the tendency to consistently overestimate the basis that would prevail during harvest.

There was a sharp basis gain immediately after harvest, but it was usually followed by a widening of the basis. Careful examination also shows a tendency for the price to decline at the same time. This latter tendency is not consistent with theoretical basis behavior. The most reasonable explanation lies in the competition between oats and soybeans for storage space on farms. It appears that oats were put away during harvest and moved to market a short time later to make room for soybeans. This put pressure on cash prices and tended to widen the basis.

The differences between July and March futures at the end of June were as follows:

1955... 4	1958... 6	1961... 6⅝
1956... 6⅜	1959... 5⅜	Average... 5½
1957... 5⅛	1960... 5½	

The consistency of these spreads gives us considerable confidence in applying them to future years as a basis for market actions.

The maximum basis gain was usually experienced by the first of the year following harvest. In every year there was a tendency for the basis to widen after January. This widening was consistent with the tendency for the price of oats to decline during the spring. These two things tell us that there was a negative market price for storing oats at country points from January on. This is not unreasonable. Oats are used almost entirely for feed. Farmers hold amounts that they anticipate will be needed for feed and seed plus a reserve. It is the movement of this reserve to market that puts pressure on the cash price and the basis. Holding a reserve is equivalent to accepting a negative return for storage. Farmers are willing to pay a small amount to be sure that they have enough. This is not a conscious decision. It is interesting to note how thorough the market is in putting a price on things.

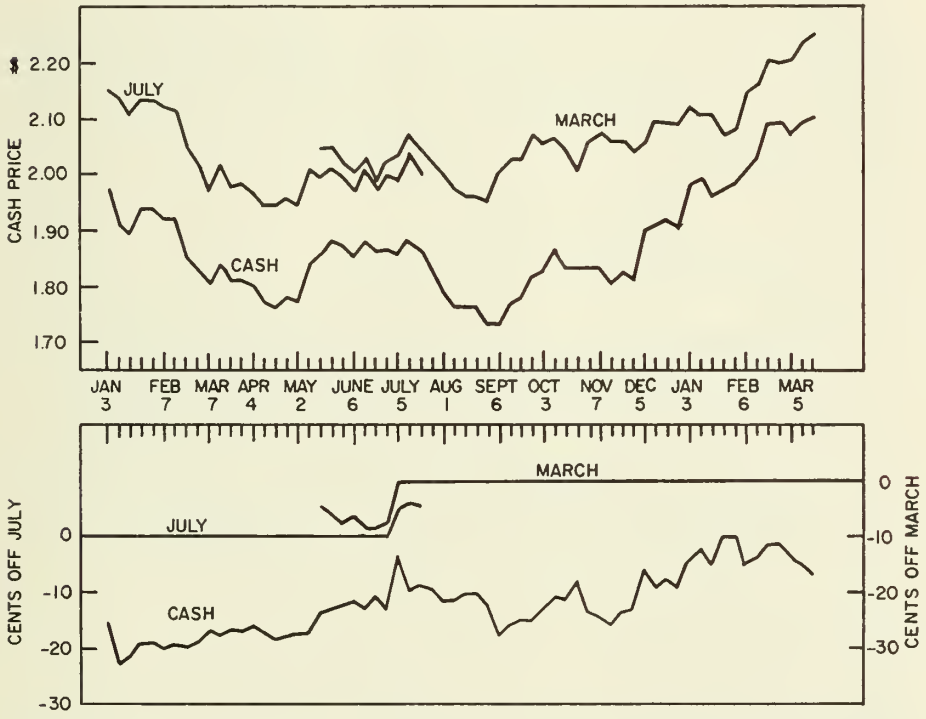
The fact that the narrowest basis occurs in early January makes this the pertinent time to measure basis rather than at the end of the storage season, as we did for corn and soybeans. It does not pay to hold oats past January except for reasons other than price. On the first day of January for which data were collected, the bases were:

1956... 6½ under	1959... 8½ under	1962... 8⅜ under
1957... 4¾ under	1960... 4⅛ under	Average... 6½ under
1958... 1⅝ under	1961... 9¼ under	

This range is substantial. Accordingly, the average should be used with reservation.

Wheat basis The price of wheat does not show any regular seasonal pattern. The average for the seven years shows a seasonal increase. The first reason is the familiar one that the period is too short for the averaging principle to work effectively.

There is also a second reason. The price of wheat was regularly dominated by government price programs. The wheat program worked. The result tended to be a built-in seasonal increase. It was always clear that the rise in the price of wheat would be limited by government resale at a price moderately above the loan. With the knowledge that the price would never go appreciably above the loan, the ownership of wheat held no attraction except as the price went below the loan equivalent for futures and below the loan minus storage charges for cash wheat. Once the price got below the loan, buying and holding was encouraged. As a sufficient amount moved into the loan, the price was forced up to a level enough above the loan to enable farmers to



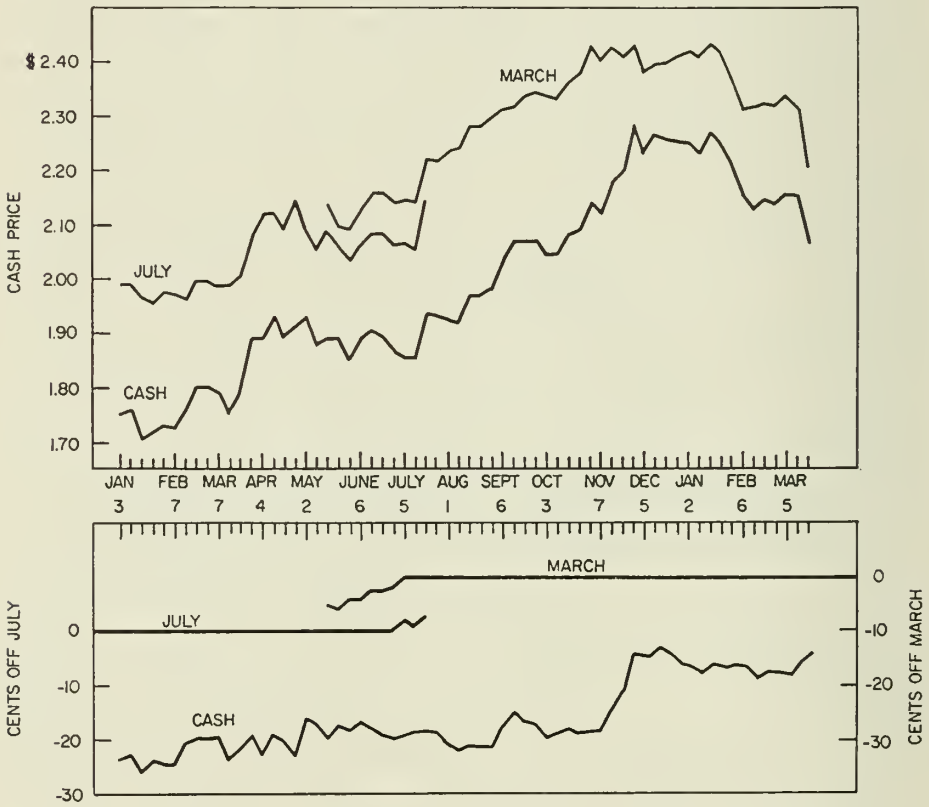
Wheat. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1955-56. (Fig. 9a)

redeem and sell wheat. This below- to above-the-loan tendency forced a somewhat regular seasonal variation.

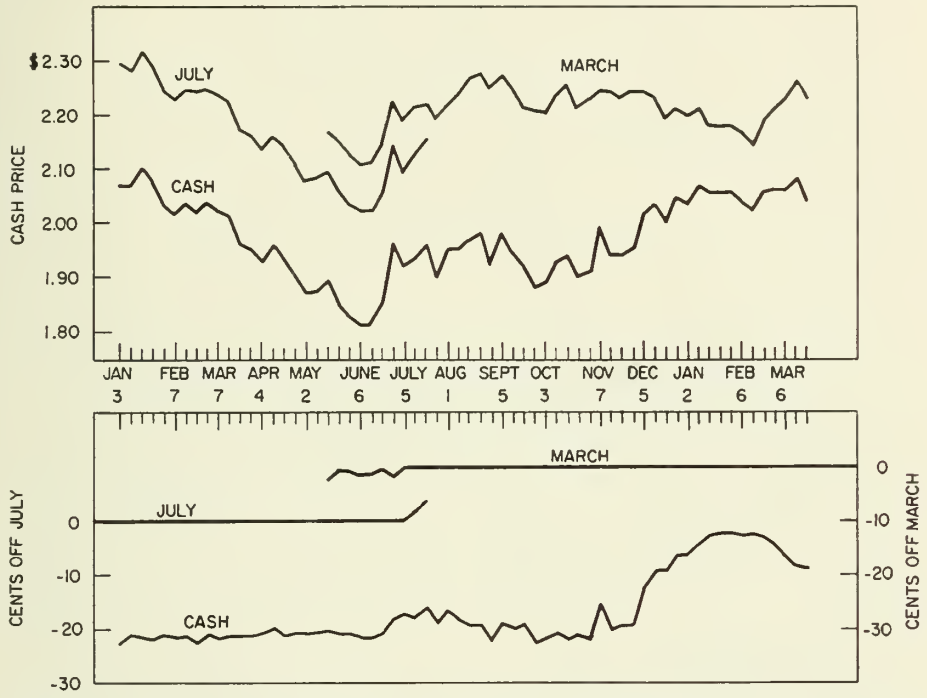
Basis patterns were more erratic for wheat than for the other grains. The reason was that wheat is less closely related to Chicago than are the others. Wheat is grown in the southern half of the state and is thus a greater physical distance from Chicago.

There are three principal outlets for Illinois wheat: several mills in Illinois, St. Louis, and New Orleans. Chicago is a minor destination. About the only time wheat moves to Chicago is when it overflows existing storage space outside of Chicago or Chicago supplies are not large enough for local milling needs in the spring.

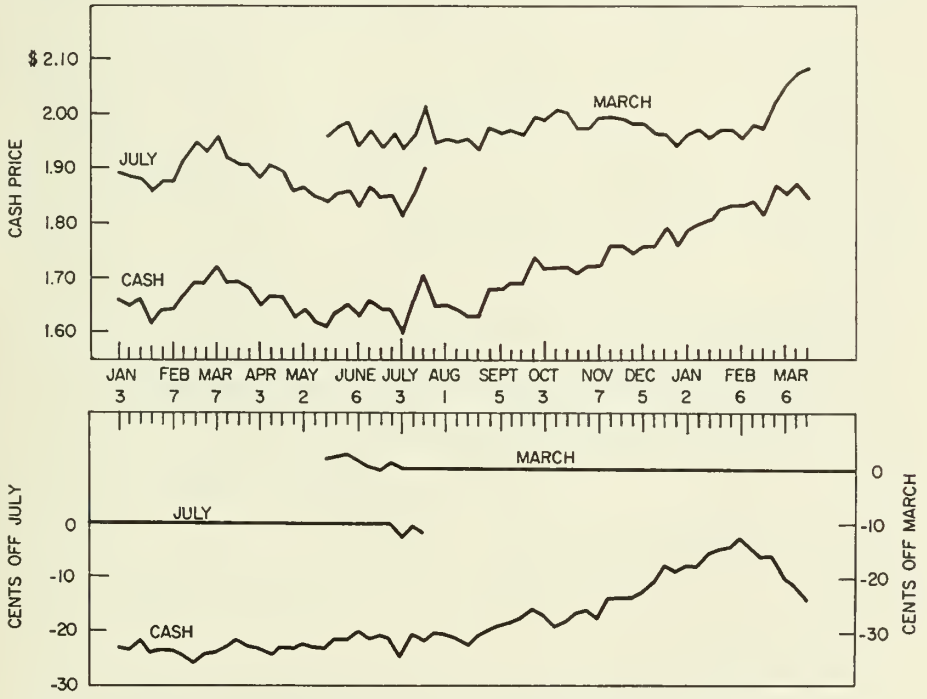
There are other reasons why Chicago and downstate Illinois prices are relatively independent, but it is sufficient for our purposes to point out that they are fairly independent of each other.



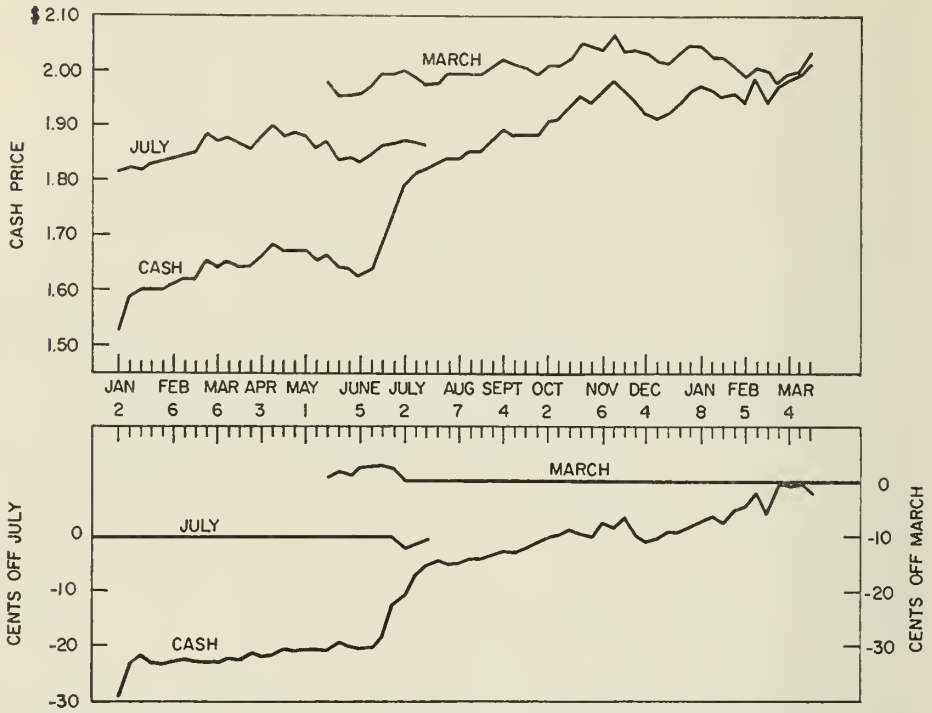
Wheat. **Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1956-57.** **(Fig. 9b)**



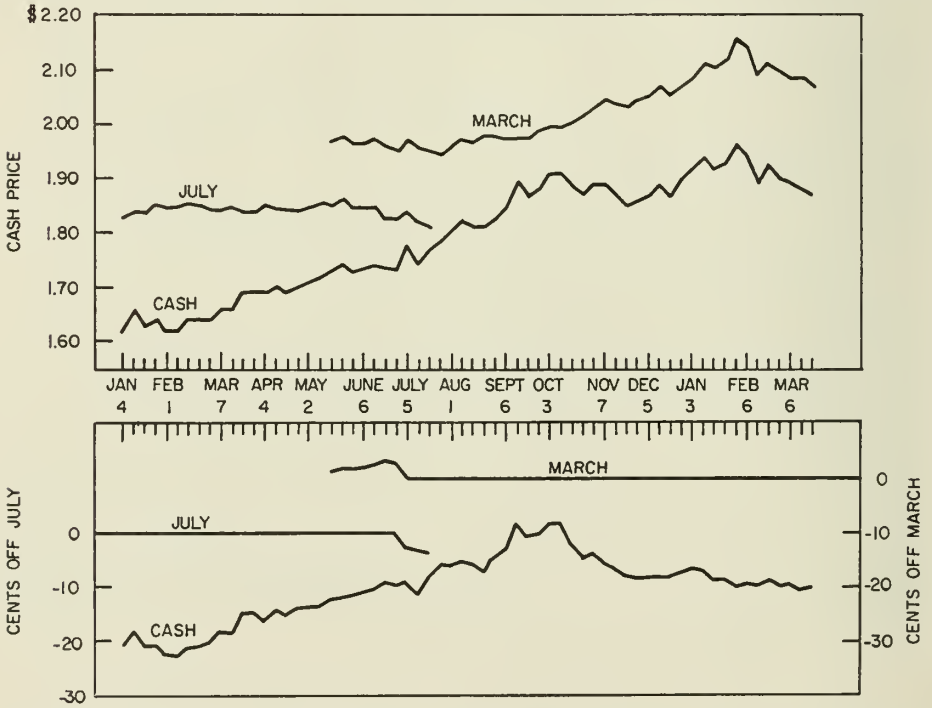
Wheat. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1957-58. (Fig. 9c)



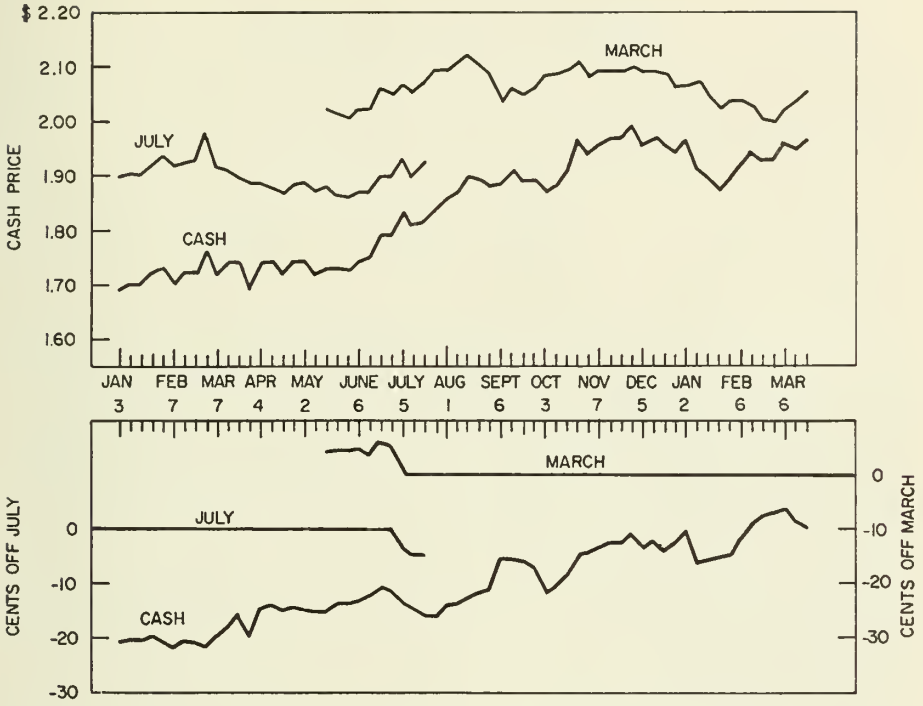
Wheat. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1958-59. (Fig. 9d)



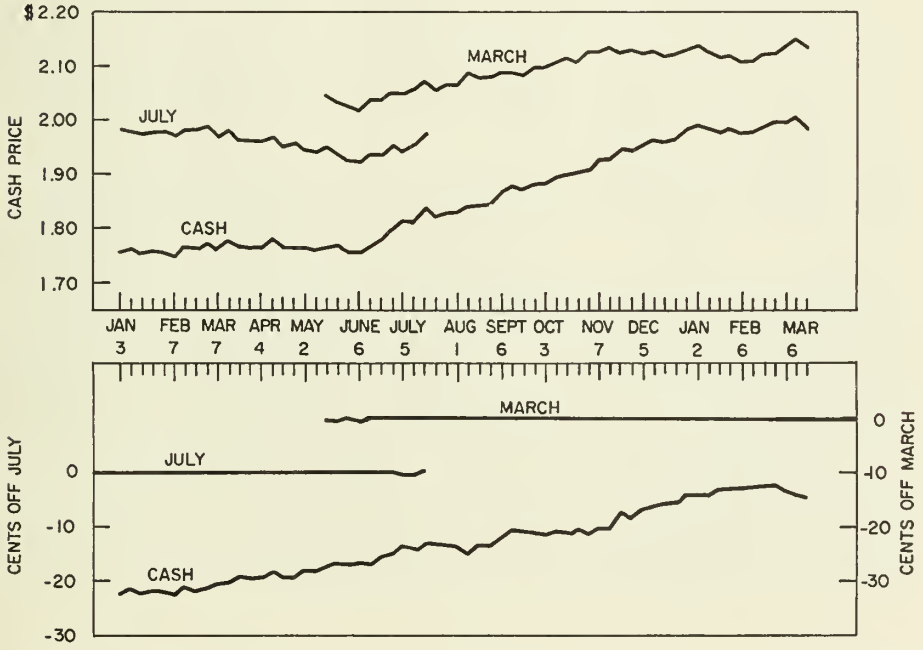
Wheat. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1959-60. (Fig. 9e)



Wheat. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1960-61. (Fig. 9f)



Wheat. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, for 1961-62. (Fig. 9g)



Wheat. Weekly cash prices bid to east-central Illinois farmers, July and March futures, and basis chart, average for 1955-62. (Fig. 9h)

In spite of the independence of the two prices, the basis pattern was broadly the one we have now become accustomed to. It was fairly stable before harvest, narrowed sharply immediately after harvest, and then usually narrowed for the rest of the season.

The July-March spreads at the end of June were as follows:

1955... 2⅝	1958... 11¼	1961... 15¼
1956... 7⅞	1959... 12½	Average... 10
1957... 8¼	1960... 12¾	

In the more recent years in the series the basis has tended to be wide because relatively large stocks were built up at Chicago. The July-March spread is the price of storage for wheat for the period of the spread. It tends to be wide as stocks are large and narrow as stocks are small. Again it should be noted that this spread is the market price of storage at Chicago. It is reasonable to expect that stocks will be large at Chicago in the future, and so 10 cents should be used as a "normal" spread.

The month and amount of the narrowest basis during each year were as follows:

Year	Month	Basis	Year	Month	Basis
1955-56..	Jan...	9½ under	1959-60..	Feb...	Even
1956-57..	Dec...	13 under	1960-61..	Oct...	8½ under
1957-58..	Jan...	12½ under	1961-62..	Mar...	6¼ under
1958-59..	Feb...	12 under	Average..	Jan...	12¾ under

From these amounts we should conclude that holding wheat past January is generally somewhat pointless and that about 12 cents under is a reasonable basis expectation.

Basis conclusions This cursory examination of basis behavior leads to several conclusions: (1) Basis patterns are broadly similar from one year to the next. (2) There are substantial year-to-year variations in basis patterns. (3) The different grains have different amounts of basis regularity, the basis for corn and soybeans being more regular than that for oats and wheat. (4) One of the principal factors causing year-to-year variation in basis is the supply of and demand for storage. (5) A second major factor affecting basis is the relative supply of and demand for grain in Chicago and at outside points. (6) Basis is a rational market price that responds to economic forces. It is therefore subject to individual-year analysis. That is, basis variations from averages are forecastable by careful students of basis.

FARMER USE OF FUTURES

Use in connection with a farm business There is a difference between using futures markets in connection with a farm business and speculating in commodity futures. The use of futures markets in connection with a farm business is speculative only in a limited sense. Futures can be used in an attempt to increase the total price of cash grain or to decrease the cost of feeding operations. In either case the key questions to be answered are: "Is this the appropriate time to buy?" or "Is this the appropriate time to sell?"

The answers to these questions are speculative. Success or failure depends on making the right forecast about subsequent price behavior. This is not an unusual experience for farmers. Selecting the time to buy and sell is one of the most important marketing problems of farmers. It is part of their usual grain speculation. Futures markets can be used as an adjunct to the usual grain speculation of farmers. Futures trading is a device by which farmers can price grain ahead — to either sell ahead or buy ahead. Accordingly the first rule is that the size of the futures position must be the same (as nearly as possible, because of the size of the unit of futures contracts) as the size of the cash grain position involved.

Farmers may speculate in futures markets aside from their farming businesses. This is an ancient and honorable activity, but it is not related to the farm business. When farmers speculate in futures markets, they are no different from physicians, lawyers, and the like. This activity is outside the scope of the present discussion.

A futures market position must be either long or short. It must be opposite to the position existing in the cash grain on which the farmer is establishing a price. If it is the same as the existing cash position, the farmer is simply taking on a speculation in addition to the cash-grain speculation that already exists.

Farmers can use futures markets in four ways: (1) to fix the price of a growing or not-yet-planted crop; (2) to fix the price of grain in storage for deferred delivery; (3) to fix the cost of feed without taking immediate delivery; and (4) to speculate in the price of a crop that has been grown but for which storage is not available. The first two involve being short futures and the second two being long futures.

To fix the price of a crop before harvest By selling futures before planting or during the growing season, farmers can assure themselves, within fairly narrow limits, of the net price they will receive at harvest.

Table 3. — Sales of Grain at Planting Season (January for Wheat), Target Prices, and Comparison of Target and Realized Prices, 1955-61 Crops

			Crop year						
			1955	1956	1957	1958	1959	1960	1961
Corn	May 2	December futures	137 7/8	142 1/8	125 1/4	119 5/8	115 1/2	110 3/4	120 5/8
		Average harvest basis	18	18	18	18	18	18	18
		Target price	119 7/8	124 1/8	107 1/4	101 5/8	97 1/2	92 3/4	102 5/8
	May 2	Sell December futures	137 7/8	142 1/8	125 1/4	119 5/8	115 1/2	110 3/4	120 5/8
	October 17	Buy December futures	127 7/8	135 3/4	121 5/8	110 5/8	108 1/8	107 7/8	109 1/2
		Profit or loss	+10	+6 3/8	+3 5/8	+9	+6 3/8	+2 7/8	+11 1/8
	October 17	Sell cash	106	113 1/2	100 1/2	95	94	94	95
		Net price	116	119 7/8	104 1/8	104	100 3/8	96 7/8	106 1/8
		Miss of target	3 7/8−	4 1/4−	3 1/8−	2 3/8+	2 7/8+	4 1/8+	3 1/2+
Soybeans	May 16	November futures	235 3/4	255	224 1/2	221 3/8	213 7/8	210 3/8	253 1/2
		Average harvest basis	17	17	17	17	17	17	17
		Target price	218 3/4	238	207 1/2	204 3/8	196 7/8	193 3/8	236 1/2
	May 16	Sell November futures	235 3/4	255	224 1/2	221 3/8	213 7/8	210 3/8	253 1/2
	October 3	Buy November futures	237	238 3/4	227 1/8	216	213 3/4	212 7/8	238 3/4
		Profit or loss	−1 1/4	+16 1/4	−2 5/8	+5 3/8	+0 1/8	−2 1/2	+14 3/4
	October 3	Sell cash	222 1/2	215	207	199	197	200	225
		Net price	221 1/4	231 1/4	204 3/8	204 3/8	197 1/8	197 1/2	239 3/4
		Miss of target	2 1/2+	6 3/4−	3 1/8−	0	0 1/4+	4 1/8+	3 1/4+
Oats	March 14	July futures	67 1/8	62 7/8	65 1/2	62	62 7/8	70 7/8	72 3/4
		Average harvest basis	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2
		Target price	56 5/8	52 3/8	55	51 1/2	52 3/8	60 3/8	62 1/4
	March 14	Sell July futures	67 1/8	62 7/8	65 1/2	62	62 7/8	70 7/8	72 3/4
	July 11	Buy July futures	63 3/8	71 3/4	67 1/2	65	66 5/8	70 1/8	73 1/4
		Profit or loss	+3 3/4	−8 7/8	−2	−3	−3 3/4	+0 3/4	−0 1/2
	July 11	Sell cash	53 1/2	63	58	53	58	61	62
		Net price	57 1/4	54 1/8	56	50	54 1/4	61 3/4	61 1/2
		Miss of target	0 5/8+	1 3/4+	1+	1 1/2−	1 7/8+	1 3/8+	0 3/4−
Wheat	January 10	July futures	213 3/8	198 7/8	228 1/8	188 1/2	182	183 3/4	189 3/4
		Average harvest basis	17	17	17	17	17	17	17
		Target price	196 3/8	181 7/8	211 1/8	171 1/2	165	166 3/4	172 3/4
	January 10	Sell July futures	213 3/8	198 7/8	228 1/8	188 1/2	182	183 3/4	189 3/4
	July 5	Buy July futures	198 1/2	206 1/2	202 3/8	181 1/4	187 1/4	183 7/8	192 7/8
		Profit or loss	+14 7/8	−7 5/8	+25 3/4	+7 1/4	−5 1/4	−0 1/8	−3 1/8
	July 5	Sell cash	185 1/2	185 1/2	181	159	179	177 1/2	189
		Net price	200 3/8	177 7/8	206 3/4	166 1/4	173 3/4	177 5/8	185 7/8
		Miss of target	4+	4−	4 3/8−	5 1/4−	8 3/4+	11 1/8+	13 1/8+

Computed from Appendix Tables 1-4.

The essential thing that a farmer must be able to do is to look at existing futures quotations and determine what they mean in terms of a net price at his local elevator at harvest. This is a matter of understanding basis.

Table 3 shows the result of a planting time (January for wheat) sale of futures followed by a harvest sale of cash and purchase of futures. For corn, May 2 was selected as the planting date, and the price of December futures on that date was noted. From the basis studies, 18 cents under the December futures was selected as the most likely cash to futures price relationship prevailing at harvest. The 18 cents was subtracted from the December futures price to obtain a "target price." What does this mean? It means that if a farmer sold December futures sometime before harvest he would get a net price (the cash price received at the local elevator plus or minus the profits or losses on the December futures) of approximately the target price.

Let us follow the system through the 1955 experience for corn: On May 2 the December futures price was $1.37⅞. Subtracting 18 cents gives a target price of $1.19⅞. The market as a whole is saying that it thinks the price of December futures will be $1.37⅞. As we have seen, that probably will not be the case. The market is also saying that, come what may, it will assure the farmer that he will get approximately $1.19⅞. The farmer decides that he is willing to accept this amount for harvest delivery. He therefore sells December futures in an amount equal to the amount that he expects to produce and deliver. Suppose that he expects to produce 10,000 bushels; he sells 10,000 bushels of December futures. On October 17 he harvests, delivers, and sells cash corn to his local elevator and receives the then current market price of $1.06 for it. At the same time he buys December futures, offsetting the original contract and closing out his futures position. The December futures price on October 17, 1955, was $1.27⅞. He sold at $1.37⅞ and bought at $1.27⅞. He therefore has a profit of 10 cents a bushel, or $1,000. He adds this 10-cent profit to the $1.06 that he received from the elevator, for a net price of $1.16. To complete the transaction we should subtract a commission of approximately ½ cent a bushel on the futures transaction.

It should be especially noted that these two transactions are separate. The farmer sells his cash corn at the local elevator. He makes the futures transaction with a commission futures merchant. The only places that the two get together are in the farmer's system of figuring how much he got for his corn and, more importantly, in his bank account. The farmer is operating two separate but parallel transactions.

The net price received in 1955 was 3⅞ under the target price. Why? Because the basis was wider than the 18-cent "normal" harvest basis. The basis chart (Figure 6a) shows a sharp break at just the time he harvested and sold. Had he sold cash (and bought December futures) one week sooner, he would have been precisely on target.

As we look across the bottom line of the corn section of Table 3, we see by how much the target was missed. The net price was under the target price three times and over it four times. The range was 4¼ under to 4⅛ over. This was the extent of the uncertainty in the net price to be received by selling December futures. The size of the misses would have been reduced if we had injected some flexibility into the date of sale of corn and purchase of the December futures. We arbitrarily selected October 17. Had we allowed this date to vary, attempting to close the transactions when the basis was 18 cents, we would have been closer.

Was this a good idea? Obviously yes. In 1955 the farmer received 10 cents more than he would have if he had not used the futures market as an aid in selling forward. As we look across the profit-and-loss line of the corn section, we note that it was advantageous to sell ahead in all of the seven years. But this should not be taken as a general rule. In discussing the seasonal pattern of December futures prices, we noted reasons why it had occurred and why we should not expect it to recur regularly. In the long run the increases and decreases in futures prices will tend to average out to zero. Thus the profits and losses will tend to average out to zero if the same things are done each year in routine fashion.

The most important point to note in Table 3 is the extent of the misses of the target. They are a measure of how accurately grain can be priced ahead for harvest delivery. The use of futures to sell ahead of harvest is not a device for increasing the price of grain each year. Rather, it is a device by which farmers can accept a price that is offered when in their judgment it makes a good sale. The futures market is not saying what the price will be at harvest. It is simply offering an approximate price now. Whether or not a farmer accepts is a speculative decision that he must make. The important point is that farmers need to be able to look at the futures market and figure out what the quotation means in terms of the net price at their local elevator at harvest. They then have a rational basis for deciding whether or not to sell ahead.

In most localities elevators will bid for harvest delivery before planting and throughout the growing season. Thus the farmer has a

choice: he can contract ahead at a firm price with the elevator for cash grain, or he can sell futures. Contracting ahead has three advantages: the exact price is known, the quantity is divisible by less than units of 1,000 bushels, and it is not necessary to maintain a margin deposit as in the case of futures.

Using futures to sell ahead has two advantages: First, the average forward price is higher. As farmers sell ahead of planting or during the growing season, someone is selling futures. Perhaps the elevator is selling futures against its purchases from farmers, or it may be that the elevator makes a cash forward contract with an interior merchant or processor who, in turn, sells futures. Whoever is doing it is bidding enough less for the cash grain to cover the cost, including the risk due to variable results that we have labeled "miss of target," and leave a profit.

The second advantage is that use of futures provides greater flexibility — greater ease for the farmer to change his mind. Suppose that at planting time a farmer notes that the December corn futures indicates a net price for harvest delivery that he thinks will make a good sale and so he sells. During July the weather gets hot and dry and it begins to look as if the crop will be short. The price starts up. What looked like a good sale early now looks like an error. Our friend can reverse his sale just as quickly as he can call his broker and buy an offsetting December contract. All it will cost him to again be long his growing crop is the amount that the price has gone up while he was becoming alert to the developing situation.

Or suppose that a farmer sells at planting time and during June and July the price goes down 12 cents as the result of favorable growing conditions. He now figures the indicated net price and decides that he would rather be long cash than long cash and short futures. He can offset his futures contract. He should put the profits on the futures contract away to add to the price received for the cash grain at harvest.

In the case of corn and soybeans, the estimates of basis we have used may overstate the cash to futures discounts that will prevail in the future. During the first three of the seven years, the net price of corn was under the target, and in the last four it was over. These last four years may be more representative of the future than the whole period is. Perhaps a harvest basis of 12 to 14 cents will be more accurate in the future. The soybean misses have a somewhat similar, though less pronounced, tendency. Twelve cents may be a more appropriate discount in the future. Oat prices fell most nearly on target of the four

Table 4. — Sales of Grain at Harvest for Later Delivery, Target Prices, Comparison of Target and Actual Prices, and Gain Realized From Storage, 1955-61 Crops

			Crop year						
			1955	1956	1957	1958	1959	1960	1961
Corn	October 17	July futures	136½	146½	131½	120½	117½	117⅜	122⅛
		Average July basis	8	8	8	8	8	8	8
		Target price	128½	136½	123½	112½	109½	109⅜	114⅛
	October 17	Sell July futures	136½	146½	131½	120½	117½	117⅜	122⅛
	June 25	Buy July futures	149½	129⅞	135	126	116⅛	112⅞	109⅞
		Profit or loss	−13	+16⅝	−3½	−5½	+1⅜	+4½	+12¼
	June 25	Sell cash	144½	120	124	118	108	100½	99
		Net price	131½	136⅝	120½	112½	109⅜	104½	111¼
		Miss of target	3+	⅛+	3−	0	⅛−	4⅞−	2⅞−
		October 17 price	106	113½	100½	95	94	94	95
		Net price realized	131½	136⅝	120½	112½	109⅜	104½	111¼
		Return to storage	25½	23⅛	20	17½	15⅜	10½	16⅛
Soybeans	October 3	July futures	244	247¼	234	225½	224⅛	224¼	253¼
		Average July basis	7	7	7	7	7	7	7
		Target price	237	240¼	227	218½	217⅛	217¼	246¼
	October 3	Sell July futures	244	247¼	234	225½	224⅛	224¼	253¼
	June 25	Buy July futures	299¾	233⅝	224⅞	224½	211⅛	261¼	249⅜
		Profit or loss	−55¾	+13⅝	+9⅛	+1	+13	−37	+3⅞
	June 25	Sell cash	284½	222	219	217	204	254	240½
		Net price	228¾	235⅝	228⅛	218	217	217	224⅜
		Miss of target	8¼−	4⅞−	1⅛+	½−	⅛−	¼−	1⅞−
		October 3 price	222½	215	207	199	197	200	225
		Net price realized	228¾	235⅝	228⅛	218	217	217	224⅜
		Return to storage	6¼	20⅝	21⅛	19	20	17	19⅜

(Table is concluded on next page)

Table 4. — Concluded

			Crop year						
			1955	1956	1957	1958	1959	1960	1961
Oats	July 11	March futures	68 3/8	77 3/4	73 1/4	70 1/8	70 3/8	74 1/2	78 7/8
		Average January basis	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2
		Target price	62 7/8	72 1/4	67 3/4	64 5/8	64 7/8	69	73 3/8
	July 11	Sell March futures	68 3/8	77 3/4	73 1/4	70 1/8	70 3/8	74 1/2	78 7/8
	January 3	Buy March futures	66	77 3/4	63 5/8	65 1/2	76 1/8	65 1/2	72
		Profit or loss	+2 3/8	0	+9 5/8	+4 5/8	−5 3/4	+9	+6 7/8
	January 3	Sell cash	59 1/2	73	62	57	72	57 1/2	65
		Net price	61 7/8	73	71 5/8	61 5/8	66 1/4	66 1/2	71 7/8
		Miss of target	1−	0 3/4+	3 7/8+	3−	1 3/8+	2 1/2−	1 1/2−
		July 11 price	53 1/2	63	58	53	58	61	62
		Net price realized	61 7/8	73	71 5/8	61 5/8	66 1/4	66 1/2	71 7/8
		Return to storage	8 3/8	10	13 5/8	8 5/8	8 1/4	5 1/2	9 7/8
Wheat	July 5	March futures	203 3/8	214 1/2	219 1/4	193 3/4	199 7/8	196 3/4	206 5/8
		Average January basis	12	12	12	12	12	12	12
		Target price	191 3/8	204 1/2	207 1/4	181 3/4	187 7/8	184 3/4	194 5/8
	July 5	Sell March futures	203 3/8	214 1/2	219 1/4	193 3/4	199 7/8	196 3/4	206 5/8
	January 23	Buy March futures	206 5/8	241	217 3/4	197 5/8	202 3/8	211 3/4	202 3/8
		Profit or loss	−3 1/4	−26 1/2	+1 1/2	−3 7/8	−2 1/2	−15	+4 1/4
	January 23	Sell cash	197	225	205 1/2	183	195	193	187
		Net price	193 3/4	198 1/2	207	179 1/8	192 1/2	178	191 1/4
		Miss of target	2 3/8+	6−	0 1/4−	2 5/8−	4 5/8+	6 3/4−	3 3/8−
		July 5 price	185 1/2	185 1/2	192	159	179	177 1/2	183
		Net price realized	193 3/4	198 1/2	207	179 1/8	192 1/2	177	191 1/4
		Return to storage	8 1/4	13	15	20 1/8	13 1/2	1/2	8 1/4

Computed from Appendix Tables 1-4.

grains. The largest miss was 1⅞ cents. Net prices of wheat miss the target badly. As noted in the basis discussion, wheat prices are not closely tied to Chicago. The 17-cent discount of cash to futures is fairly close to the cost of delivering wheat to Chicago from the northern part of the Illinois wheat production area. It should therefore be regarded as nearly a maximum discount rather than an average or normal discount. The target price tends to be a minimum rather than an accurate target.

To fix the price of grain in storage for later delivery Table 4 is an exercise in forward pricing of grain that is in storage. The procedure is the same as pricing forward for harvest delivery at planting time. Target prices were established for each grain by subtracting a "normal" basis from a futures price near the end of the storage season. This target price is the approximate net price that the market was bidding for late-season delivery. That is, on October 17, 1955, the market was saying to east-central Illinois farmers. "We will pay you approximately $1.28½ per bushel for corn to be delivered about July 1, 1956." The procedure was for the farmer to sell July futures in an amount equal to the amount of corn he had in storage and about the following (1956) July 1 to buy July futures, sell cash corn at his local elevator, and subtract the loss on the futures contract from the price received for his cash corn.

The "miss of target" figures measure the accuracy of the indicated forward price. They are by no means precise. Yet they fall within fairly narrow limits. They were much less variable than the level of prices of the grains. The essential point is that regardless of what happened to the level of prices the market came fairly close to performing on its net price commitment. For example, on October 3, 1959, the target price for soybeans was $2.17⅛. By June 25, 1960, the price level (July futures) of soybeans had declined 13 cents. Yet the market missed performance by only ⅛ cent. The following year the price level increased 37 cents. The market missed the forward price by only ¼ cent. The dates for closing the transactions were always the same, leaving no room for judgment. Had these been less rigid the size of the misses would have been reduced.

Again, the decision about whether to accept the forward price is a speculative one. The opportunity to forward price is always present. Whether it should be accepted or not depends upon whether the person holding the grain thinks that the level of price, as measured by the distant futures, is going to go up or not. If the futures prices do subsequently go up, he will regret having priced forward. If they go down,

he will profit by selling. The figures for "profit or loss" in Table 4 indicate whether it turned out to be a good idea to price forward or simply to hold cash grain for later sale.

Between them, Tables 3 and 4 show 56 transactions in futures. There were 32 profits, 23 losses, and one break-even, meaning that the price went down 32 times, up 23, and did not change once. The average size of the profits was 7⅞ cents, and the average of the losses was 9¼ cents. On average it was more profitable to be short than long, but this is not a meaningful average. It is too near even to be ascribed to anything other than chance.

In contemplating the question of a forward sale, a farmer must look at the price of the distant future, calculate what it means in terms of the price at his local elevator during the month of maturity of the futures contract, and then decide whether or not he wants to be long at that price. Let us review such a decision: On October 3, 1961, the cash price of soybeans was $2.25 and the July futures price was $2.53¼. Assuming a normal basis of 7 cents, the forward price was $2.46¼. The government support price was $2.42, including all possible moisture and quality premiums. The crop was obviously larger than would be used up. The policy of the government was to sell any soybeans that it took over at a price equivalent to $2.47½ to farmers. The question that the farmer should have asked himself was: "Do I want to be long soybeans that are now priced at $2.46¼ for delivery next July 1?" — not "Do I want to be long soybeans at $2.25?" The problem was to ask the right question.

Table 4 includes a section on storage for each of the grains. It shows the harvest price, the net price realized by forward pricing through the use of futures contract sales, and the returns to storage. The return to storage is the amount of increase in the cash price in relation to the futures price. These same values can be seen visually in the basis charts that we reviewed earlier.

We noted from our charts that the prices of cash grains tend to go up seasonally. These increases are the net values of two kinds of change: payment for storage and price level. In the long run the change in the price level averages out to zero, and only the payment for storage remains. The size of the payments for storage vary substantially from year to year. The price of storage is a competitive market price that depends on the supply of and demand for storage space.

The importance of the concept of storage is that farmers can profitably continue to use storage space even though they think that the price will decline. Suppose that at harvest or shortly after a farmer looks

at the existing price and decides that this is a good time to sell — that the price is more likely to go down than up. If he does sell, his existing storage space will remain empty, with no return until the next harvest. If he does not use futures, he must be long to obtain a return from the use of storage. If he does use futures to price ahead, he can get a storage return without being vulnerable to a price decline; that is, he can have his cake and eat it too.

The use of futures to price stored grain ahead offers farmers an opportunity to change their minds that is not possible when they sell cash grain. The sale and delivery of cash grain is quite final. Once a farmer sells and delivers, he is out of the game. If he is pricing forward via futures, he can get back in at any time that, in his judgment, he should. Two examples illustrate this point: During the 1960 harvest a selling price of $2.00 for soybeans appeared to be reasonable to many people. The crop was large, and demand did not appear vigorous. During October and November several bullish things happened. Each successive estimate of the size of the crop was smaller. Export demand for soybeans was vigorous. The government became quite active in exporting surplus oil. In early December news of a Chinese drought meant that China would not compete with U. S. soybean exports. That did it! A $2.00 sale no longer looked good. If a farmer had sold at $2.00, he was through. Had he sold July futures on October 3 at $2.24¼, he could have bought them back and been long the stored crop. He could have done so as late as December 19, at as low as $2.24.

For a second example we will take corn in the fall of 1961. As we have seen, the target price was $1.14⅛ on October 17. This price looked good because of the prospect of large government sales. By the end of February the July futures had declined to $1.12. Disregarding futures profits already accrued, the target price was then $1.04. In view of the large amount of corn moving into the support structure, this did not look like a good sale. It was a price at which most farmers preferred to be long. Farmers who had sold July futures against stored corn on October 17 could take a 10-cent profit and again be long stored corn.

In Tables 3 and 4 we adhered rigidly to pricing forward at planting and harvest. The opportunity offered farmers is by no means so rigid. By use of futures, farmers can decide to fix or unfix the price for forward delivery at any time that their speculative judgment tells them to do so.

Table 5 combines the operations shown in Tables 3 and 4 and introduces flexibility in the timing of operations. It illustrates a system of

pricing forward at planting time for delivery after the crop has been produced and stored for six to nine months.

The procedure for corn was (1) to sell December futures at planting time; (2) to buy December and sell July, after trading starts for delivery the following July (about August 1), whenever a premium of 10 cents for the July can be obtained or on November 14, whichever occurs first; and (3) to sell cash and buy July futures when the cash price is within 8 cents of the July futures price, but not later than July 3. The dates of execution of the switch from December to July and the closing of the transactions are shown in the table. The normal spread of 10 cents was established by examining the data in Appendix Table 1. The target prices were a net of 2 cents over the December futures (plus 10 minus 8) for delivery upwards of 14 months forward.

For soybeans the procedure was (1) to sell November futures at planting time; (2) to switch to July at a 12-cent premium, but not later than October 31; and (3) to close the transaction on a 7-cent basis, but not later than July 2. The target prices were a net of 5 cents over the November futures (plus 12 minus 7).

For oats the procedure was to (1) sell July futures at planting time; (2) switch to March at a 5-cent premium, but not later than June 27; and (3) close out the transaction at a basis of 5½ cents, but not later than January 3. The reasons for closing out so early were discussed in the section on basis behavior. Target prices were a net of ½ cent under the July future.

For wheat the procedure was to (1) sell July futures on January 10; (2) switch to the subsequent March contract at a premium of 10 cents, but not later than July 5; and (3) close out the transaction at a basis of 12 under, but not later than January 30.

The target prices were not always precisely realized. They sometimes fell short because spreads did not get as wide as the target spreads and because the basis did not always get as narrow as the target basis. They were sometimes exceeded because the actual spreads were wider than the target spreads when trading in the subsequent futures started or because overnight basis changes were rapid. Target prices would have been slightly more accurately realized if daily instead of weekly prices had been used.

For corn, soybeans, and oats, the misses of the target prices were small. Wheat basis and spreads are less regular; hence the misses of target tend to be larger.

It should again be emphasized that the profits and losses from the futures transactions tend to average out to zero. The use of futures in

Table 5. — Sales of Grain at Planting Season (January for Wheat) for Late-Season Delivery, Target Prices and Realized Prices, 1955-61 Crops

			Crop year						
			1955	1956	1957	1958	1959	1960	1961
Corn	May 2	December futures	137⅞	142⅛	125¼	119⅝	115½	110¾	120⅝
		Net basis +10 −8	2+	2+	2+	2+	2+	2+	2+
		Late June of following year target price	139⅞	144⅛	127¼	121⅝	117½	112¾	122⅝
	May 2	Sell December futures	137⅞	142⅛	125¼	119⅝	115½	110¾	120⅝
		Switch whenever December-July difference is 10 or November 14 (date)	Nov. 7	Aug. 29	Sept. 5	Oct. 24	Nov. 13	Nov. 7	Aug. 1
		Buy December futures	129½	138¾	123⅛	109⅜	112⅞	107⅝	116⅝
		Profit or loss	+8⅜	+3⅜	+2⅛	+10¼	+2⅜	+3⅛	+4
		Sell July futures	139¾	149	133⅛	119⅜	120⅞	118¼	126⅝
		Close whenever basis is 8 under or July 3 (date)	June 4	June 4	April 10	June 19	July 1	July 3	May 23
		Buy July futures	149⅞	127½	126½	126½	116½	114	114⅝
		Profit or loss	−10⅛	+11½	+6⅝	−7⅛	+4⅜	+4¼	+12
		Sell cash	142½	119½	120	118½	109	102½	107
		Net price	140½	144⅜	128¾	121⅝	115¾	109⅞	123
		Miss of target	⅝+	¼+	1½+	0	1¾−	2⅝−	1⅜+
Soybeans	May 16	November futures	235¾	255	224½	221⅜	213⅞	210⅜	253½
		Net basis +12 −7	5+	5+	5+	5+	5+	5+	5+
		Late June of following year target	240¾	260	229½	226⅜	218⅞	215⅜	258½
	May 16	Sell November futures	235¾	255	224½	221⅜	213⅞	210⅜	253½
		Switch whenever November-July difference is 12 or October 31 (date)	Oct. 31	Oct. 17	Oct. 31	Oct. 31	Oct. 30	Oct. 24	Aug. 2
		Buy November futures	236½	241½	226½	210¾	217	216⅞	246¼
		Profit or loss	−¾	+13½	−2	+10⅝	−3⅛	−6½	+7¼
		Sell July futures	241¾	254¼	236¼	223	228½	229½	259
		Close whenever basis is 7 under or July 2 (date)	July 2	July 2	June 19	July 2	June 10	Mar. 20	Mar. 22
		Buy July futures	274¼	238⅜	224¼	223¾	212	292	249
		Profit or loss	−32½	+15⅞	+12	−¾	+16½	−62½	+10
		Sell cash	258½	224½	218½	217	205	285	242
		Net price	225¼	251⅞	228½	226⅞	218⅜	216	259¼
		Miss of target	15¼−	8⅛−	1−	½+	½−	⅝+	¾+

(Table is concluded on next page)

Table 5. — Concluded

			Crop year						
			1955	1956	1957	1958	1959	1960	1961
Oats	March 14	July futures	67⅛	62⅞	65½	62	62⅞	70⅞	68½
		Net basis +5 −5½	½−	½−	½−	½−	½−	½−	½−
		Target price	66⅝	62⅜	65	61½	62⅜	70⅜	68
	March 14	Sell July futures	67⅛	62⅞	65½	62	62⅞	70⅞	68½
		Switch whenever July-March difference is 5 or June 27 (date)	June 27	June 6	June 6	June 6	June 19	June 27	May 9
		Buy July futures	65¼	64⅞	62¾	62	66⅜	70⅜	67
		Profit or loss	+1⅞	−2	+2¾	0	−3½	+½	+1½
		Sell March futures	69¼	71	69¼	68¼	71⅜	75⅞	75½
		Close whenever basis is 5½ under or January 3 (date)	Dec. 5	Nov. 21	Nov. 14	Jan. 2	Dec. 11	Jan. 3	Jan. 3
		Buy March futures	64½	79¾	67½	65½	76	65½	72¼
		Profit or loss	+4¾	−8¾	+1¾	+2¾	−4⅝	+10⅜	+3¼
		Sell cash	59½	74½	63	57	71	57½	62
		Net price	66⅛	63¾	67½	59¾	62⅞	68⅜	66¾
		Miss target	½−	⅞+	2½+	1¾−	½+	2−	1¼−
Wheat	January 10	July futures	213⅜	198⅞	228⅛	188½	182	183¾	190¼
		Net basis +10 −12	2−	2−	2−	2−	2−	2−	2−
		Target price	211⅜	196⅞	226⅛	186½	180	181¾	188¼
	January 10	Sell July futures	213⅜	198⅞	228⅛	188½	182	183¾	190¼
		Switch whenever July-March difference is 10 or July 5 (date)	July 5	July 5	July 6	May 16	May 15	May 16	April 3
		Buy July futures	198½	206½	202⅜	184	187	185⅜	188
		Profit or loss	+14⅞	−7⅝	+25¾	+4½	−5	−1⅝	+2¼
		Sell March futures	203⅜	214½	210⅞	196	197¾	196¾	200¼
		Close whenever basis is 12 under or January 30 (date)	Jan. 23	Jan. 30	Jan. 23	Jan. 30	Oct. 9	Sept. 12	Nov. 24
		Buy March futures	206⅝	237¼	217¾	197⅝	200¾	197⅝	209⅝
		Profit or loss	−3¼	−22¾	−6⅞	−1⅝	−3	−⅞	−9⅜
		Sell cash	197	221	205½	183½	191	189	204
		Net price	208⅝	190⅝	224¾	186⅜	183	186½	196⅞
		Miss of target	2¾−	6¼−	1¾−	⅛−	3+	4¾+	8⅝+

This table is based on the data in Appendix Tables 1-4. Target prices would have been more precisely realized in the instances where they were exceeded had daily data been used or automatic orders been placed with a commission futures merchant.

a routine way, such as is illustrated in Table 5, does not in the long run add to or subtract from the realized price of grain. Futures markets are a tool for pricing forward when a farmer's best speculative judgment tells him it is time to fix the price of grain.

To fix the cost of feed without taking immediate delivery Livestock feeders are subject to several kinds of uncertainty. In addition to production uncertainties, there are market uncertainties with regard to the selling price of the livestock and the cost of feed. Futures markets can have usefulness in fixing the cost of feed.

As a livestock feeder starts a feeding program, he commits himself to the use of feed. The feed that he does not have on hand he must subsequently buy. He is short a requirement of feed. If at the outset of the program he buys a sufficient amount of feed to last the entire feeding season, he can nail down one more cost item and thus reduce his total uncertainty. The feeding season is usually regarded as from fall to fall. Thus we are talking about buying feed in the fall of the year. In the main we are talking about buying corn.

Producers who do not have a sufficient amount of storage space or who do not wish to tie up their money in corn inventory can fix the cost of corn by buying futures. They are short cash corn for feeding requirements. They therefore buy corn futures in an amount equal to their actual feed requirements. As space is available and they acquire cash corn, they sell the corn futures. Profits made on the futures transactions are subtracted from the price paid for the cash corn to get the net cost of feed. Similarly, losses taken on the futures transaction are added to the price of the cash corn to get the net cost of feed.

If cash and futures prices moved up and down precisely together, the price of the feed corn could be fixed at the price existing when the futures transaction was initiated. To illustrate let us suppose that a feeder observes that the price of cash corn at his local elevator is 95 cents. He likes this price and wishes to fix it for the supplemental feed corn that he will eventually buy. He buys futures at, say, $1.10, or 15 cents over the cash. Some months later when he needs the cash corn he pays $1.05. If the cash and futures prices have moved up the same amount, he will sell his futures contract for $1.20, realizing a 10-cent profit. He subtracts this cost from the $1.05 that he paid for cash corn, for a net cost (ignoring futures commission charges) of 95 cents.

However, as we have seen, cash and futures do not move up and down together. The cash gains in relation to the futures. Increases in the futures will not offset the increase in the cash price. This increase

Table 6. — Purchases of Futures to Fix the Cost of Feed Corn, 1955-61 Crops

		Crop year						
		1955	1956	1957	1958	1959	1960	1961
November 14...	Buy July futures	135¼	148⅞	127⅜	120	120⅞	115⅝	120⅛
April 2.....	Sell July futures	147¼	133⅛	122⅜	123⅞	121⅞	112¼	119½
	Profit or loss	+12	−15¾	−5	+3⅞	+1	−3⅜	−⅝
April 2.....	Buy cash corn[a]	129	116	113	112½	111	95½	106½
	Net cost of feed corn	117	131¾	118	108⅝	110	98⅞	107⅛
November 14...	Cash price	105	123	100	99	101	85	100
	Payment for storage April 2 basis	12 18¼	8¾ 17⅛	18 9⅜	9⅝ 11⅜	9 10⅞	13⅞ 16¾	7⅛ 13

[a] Farmers' selling price at local elevator.

in cash in relation to the futures is equal to the going market price for storage. In effect, the feeder pays someone to store the corn that he has bought until he needs it. And because someone is storing the corn for him he should reasonably be expected to pay for this service.

In Table 6 we have set up an exercise in fixing corn prices by buying July futures. We assumed that the farmer needed to purchase about one-half year's supply of corn and that space would be available on the farm by April 1. Mid-November was selected as the most favorable time to initiate the transaction. The results were computed for the seven years 1955 to 1961.

In each of the seven years the net cost of the feed corn was higher than the harvest price; that is, the cash always gained in relation to the futures. The amount of this gain is shown on the line "payment for storage." It averaged 11¼ cents during the period. The experience here was that 4½ months' storage cost an average of 11¼ cents, which is a high monthly rate. It probably overstates the long-term rate because of the very large basis gain in 1957 to 1958.

In those years in which there was a profit in futures, the net cost of feed corn was reduced; and in those years in which there was a loss, the net cost of feed corn was increased. There were losses in four years and profits in three. The average size of the losses was greater than that of the profits. This does not prove that farmers should not price feed corn ahead by buying futures. The period is too short to provide a reliable average. In the long run, profits and losses should be equal if the same transactions are made at the same time each year.

There are benefits from pricing feed corn ahead even though in the long run it only breaks even. It is a method by which the approximate cost of feed can be established. The knowledge of cost is useful in

planning feeding operations. Pricing feed corn ahead reduces the total risk involved in feeding operations.

It is clear that the purchase of corn futures does not assure that the cost of corn will be the current price. It will be higher than the current price by the amount of basis gain. The problem, then, is to understand what the current futures prices mean in terms of the ultimate net cost of corn. The feeder should subtract the basis that he expects to exist at the time he wishes to buy and take delivery of cash corn from the current corn futures price. If he wishes to buy and take delivery of cash corn on April 2 and expects a basis of 13 under the July at that time, and the current price of July futures is $1.25, he should reckon his net cost at $1.12 ($1.25 minus 13). This becomes his target price. The bottom line in Table 6 shows the basis (cash at local elevators to July futures) on April 2 of each of the seven years. The average was 13¾ cents, and there was a substantial variation in this average. The amount that the April 2 basis varies is the amount of uncertainty that exists about the net cost of feed corn.

What should a farmer do? He should reckon his approximate net cost and then decide whether he wishes to fix that price or wait until a later time to buy.

To speculate in the price of a crop that has been produced but for which storage is not available Farmers sometimes wish to delay the pricing of grain past the time they can hold cash grain on farms. They can do so by selling cash grain and replacing it with an equal amount of grain futures. This is speculation. They are long. If the price goes up, they will make money. If it goes down, they will lose money. Such speculation is an integral part of an ordinary farm business. Speculation in futures is neither more nor less a part of the farm business than maintaining a long position in cash grain so long as it replaces a cash-grain speculation that formerly existed.

Farmers often ask if they can sell cash grain at harvest and replace it with futures to take advantage of the seasonal rise in prices without incurring the costs of storage. This cannot be done. As we have seen, there is no regular seasonal pattern in grain futures prices, and cash prices increase in relation to futures prices so that whoever is long futures does, in effect, pay storage.

Table 7 shows the results of working out a repetitive system of replacing cash grain with futures at harvest and selling late in the season. The ending dates for corn and soybeans were placed just before the beginning of the delivery month. Ending dates for oats and wheat were placed in January because of the tendency noted earlier to top out seasonally at that time.

Table 7. — Purchase of Futures to Replace Cash Grain Sold at Harvest

			Crop year						
			1955	1956	1957	1958	1959	1960	1961
Corn	October 17	Sell cash	106	113	100	95	94	94	95
	October 17	Buy July futures	136½	146½	131½	120½	117½	117⅜	122⅛
	June 25	Sell July futures	149½	129⅞	135	126	116⅛	112⅞	109⅞
		Profit or loss	+13	−16⅝	+3½	+5½	−1⅜	−4½	−12¼
		Net price	119	96⅞	104	100½	92⅝	89½	72¾
		June 25 cash price	144½	120	124	118	108	100½	99
		Cost of storage	25½	23⅛	20	17½	15⅜	10½	16¼
		June 25 basis	5−	9⅞−	11−	8−	8⅛−	12⅜−	10⅞−
Soybeans	October 3	Sell cash	222½	215	207	199	197	200	225
	October 3	Buy July futures	244	247¼	234	225½	224⅛	224¼	253¼
	June 25	Sell July futures	299¾	233⅝	224⅞	224½	211⅛	261¼	249⅜
		Profit or loss	+55¾	−13⅝	−9⅛	−1	−13	+37	−3⅞
		Net price	278¼	201⅜	197⅞	198	184	237	221⅛
		June 25 cash price	284½	222	219	217	204	254	240½
		Cost of storage	6¼	20⅝	21⅛	19	20	17	19⅜
		June 25 basis	15¼−	11⅝−	5⅞−	7½−	6⅛−	7¼−	8⅞−
Oats	July 11	Sell cash	53½	63	58	53	58	61	62
	July 11	Buy March futures	68⅜	77¾	73¼	70⅛	70⅜	74½	78⅞
	January 3	Sell March futures	66	77¾	63⅝	65½	76⅛	65½	72
		Profit or loss	−2⅜	0	−9⅝	−4⅝	+5¾	−9	−6⅞
		Net price	51⅛	63	48⅜	48⅜	63¾	52	55⅛
		January 3 cash price	59½	73	62	57	72	57½	65
		Cost of storage	8⅜	10	13⅝	8⅝	8¼	5½	9⅞
		January 3 basis	6½−	4¾−	1⅝−	8½−	4⅛−	8−	7−
Wheat	July 5	Sell cash	185½	185½	192	159	179	177½	183
	July 5	Buy March futures	203⅜	214½	219¼	193¾	199⅞	196¾	206⅝
	January 23	Sell March futures	206⅝	241	217¾	197⅝	202⅜	211¾	202⅜
		Profit or loss	+3¼	+26½	−1½	+3⅞	+2½	+15	−4¼
		Net price	188¾	212	190½	162⅞	181½	192½	178¾
		January 23 cash price	197	225	205½	183	195	193	187
		Cost of storage	8¼	13	15	20⅛	13½	½	8¼
		January 23 basis	9⅝−	16−	12¼−	14⅝−	7⅜−	18¾−	15⅜−

Whether the net price was increased or decreased can be quickly seen from the line "profit and loss" for each grain. It should be noted that the futures transactions are precisely opposite to those shown in Table 4 where grains were priced for deferred delivery. It was pretty much of a stand-off for corn. The price went down in four of the seven years. The average size of the decreases was larger than that of the increases.

The cash price the farmer would have received if he had held cash corn in store to June 25 is shown. The net price he actually received was subtracted from this cash price. The difference is the amount that he paid, in effect, for storage. These were substantial amounts, generally more than covering the full cost of on-farm storage. It should be noted that these are the same amounts shown in Table 4.

But this is not all of the loss that should be met in storing corn. The prices shown are for No. 2 yellow. The corn delivered at harvest was subject to moisture discounts. Part of the discount exists because the market does not pay for water, but part of it is an actual discount to cover the cost of drying corn down to storable moisture.[1]

Two things are clear: (1) it pays to hold corn past harvest when space is available, either as a long cash position or priced forward via a sale of futures, and (2) it does not pay to routinely replace cash with futures. When storage space is not available, it sometimes pays to replace cash with futures. Selecting the years to do so is a matter of speculating in the price of corn. And farmers are fairly skilled at this. The problem is to figure out the cash farm price at which the farmer is actually going long when he buys the July future. In the fall of 1959, with the cash price at 94 cents and the government loan available to all producers at $1.06, corn seemed a cinch to go up. It did go up 14 cents a bushel, but July futures went down 1⅜ cents. The cash price increased 15⅜ cents in relation to the July futures price. Thus the buyer of July contracts actually went long cash at $1.09⅜. Knowing this, few farmers would have replaced cash with futures.

How does a farmer know at what price he is going long? The answer is a matter of anticipating basis. The June 25 basis is shown in Table 7. We earlier established a "normal" basis for June 25 of 8 cents under the July. Thus on October 17, 1959, the farmer should have said to himself, "If I subtract 8 cents from $1.17½, I find that I am going long cash corn as of next summer at a cash price of $1.09½. The cash price must go up to $1.09½ before I make any profit. Do I think the price is going higher than $1.09½?"

[1] For a full discussion of discounts, see Ill. Agr. Ext. Cir. 833.

The same conclusions are apparent with regard to soybeans, oats, and wheat. In the long run the replacement of cash with futures is a break-even proposition. To successfully use futures markets in this way requires a better-than-average job of speculation. A rather large payment for storage must, in effect, be made when cash is replaced by futures. While variable, ending basis can be effectively used to determine the cash-grain price represented by the futures price.

The data for Table 7 are included in Appendix Tables 1 to 4 and are shown visually in the price and basis charts.

SOME COMMON PITFALLS IN FUTURES TRADING

There are several ways in which farmers (and others) can go wrong in their futures trading operations. In all futures trading there is uncertainty about the outcome because of variability in basis. This is to be expected, and a trade that fails to materialize as expected because of an unusual basis behavior should not be scored as an error.

The first type of error is improper calculation of basis — the failure to add the right normal basis to or subtract it from the right future. The exercises performed in the various tables should be repeated, using slightly different dates. Proposed transactions should be tested on previous years.

The second type of error is to fail to relate the futures transactions to the farm business in the size and direction of position. The futures position must be as nearly as possible the same size as the cash position. Margin requirements for trades in grain futures are small. Farmers are tempted to take larger futures positions than the cash positions being offset without realizing the large losses and gains that can result from small price changes. The temptation is particularly great to replace cash sales with larger quantities of futures. The reasoning is that if it is desirable to replace 5,000 bushels of cash corn with 5,000 of futures, then it is even better to replace it with 25,000. To do so is to leave the farm business and become a speculator.

Positions in futures must be opposite cash position. If the farmer is trying to establish a price for deferred delivery of a growing or stored crop, he is long cash and therefore must be short futures. If he is long futures, he is increasing his risk and trading in futures in a way that is not related to the farm business. If he has need for additional feed supplies, he is short cash and should therefore be long futures.

The third type of error is the failure to close out both the cash and the futures transaction simultaneously. Most people are reluctant to

take a loss on futures. Suppose that a farmer is long the crop that he has in storage and short futures against it and the level of price goes up. He has made money on the cash and lost on the futures. The net of the change may be meeting his target price exactly, but when he sells cash he is tempted to stay short the futures in the hope that it will go back down so that he can retain his cash profits without having to offset part of them with futures losses. He is reluctant to admit that he made a mistake when he priced his cash grain forward instead of staying long. He must learn to live with his decisions in the same way that he does if he sells the actual cash grain too soon. When he prices a growing or stored crop forward by selling futures, he is working with basis and is no longer concerned with changes in the level of price.

The fourth type of error is to trade in and out. We have described some situations in which farmers can wisely reverse positions taken in futures as they change their minds about the future course of prices. There is always the temptation to overdo this reversal. Suppose that a farmer prices a growing crop forward by selling futures. The price goes down and even though he thinks it will finally go lower, he expects some short-term recovery. He is tempted to take a quick profit, expecting to sell again when the price recovers. If he does so, he is becoming a short-term trader, something that most farmers are not qualified to do. One of the most difficult aspects of futures trading is to resist taking a quick profit.

From the several types of errors it is clear that farmers should develop a careful plan and stick with it except as they have a very good reason to change, and further that they should ration themselves to one change of mind.

Appendix Table 1. — Corn: Weekly Prices, Cash Bid to Farmers at Local Elevators in East-Central Illinois, December and July Futures, Basis, and December-July Spreads, 1955-61 Crop Years

Date	East-central Illinois farm price	Dec.	July	Basis	Difference
		1955 Crop			
1955					
April 4	122	138 1/8		16 1/8	
11	120	136 1/2		16 1/2	
18	122	138 3/4		16 3/4	
25	122	138 1/8		16 1/8	
May 2	121	137 7/8		16 7/8	
9	123	140 1/8		16 7/8	
16	123	138 1/2		15 1/2	
23	122	138 3/8		16 3/8	
31	119 1/2	135 3/4		16 1/4	
June 6	117	133 3/4		16 3/4	
13	117 1/2	134		16 1/2	
20	116 1/2	133 3/8		16 7/8	
27	117	133 7/8		16 7/8	
July 5	117 1/2	134 1/2		17	
11	115 1/2	133 1/8		17 5/8	
18	111	129 7/8		18 7/8	
25	108 1/2	127 1/2		19	
Aug. 1	110	129 1/2		19 1/2	
8	107	126 5/8		19 5/8	
15	104 1/2	124 1/4		19 3/4	
22	107	128 1/8		21 1/8	
29	107 1/2	128 1/8	134 5/8	20 5/8	6 1/2
Sept. 6	108 1/2	128 1/2	135 1/2	20	7
12	108 1/2	128	135 5/8	19 1/2	7 5/8
19	111 1/2	130 3/4	139	19 1/4	9 3/4
26	117	136 1/2	145	19 1/2	8 1/2
Oct. 3	113 1/2	131 7/8	140 1/2	18 3/8	8 5/8
10	113	131	139 1/4	18	8 1/4
17	106	127 7/8	136 1/2	21 7/8	8 5/8
24	100 1/2	125	134 1/8	24 1/2	9 1/8
31	106	128 1/2	138 1/8	22 1/2	9 5/8
Nov. 7	108 1/2	129 1/2	139 3/4	21	10 1/8
14	105	124 3/4	135 1/4	19 3/4	10 1/2
21	103 1/2	125 3/8	136 1/4	21 7/8	10 7/8
28	107 1/2	125	136	17 1/2	11
Dec. 5	115 1/2	127	136 1/2	21	9 1/2
12	116 1/2	127	137 1/8	20 5/8	10 1/8
19	114	124 1/2	135 1/8	21 1/8	10 5/8
27	114		134 5/8	20 5/8	
1956					
Jan. 3	114		134 5/8	20 5/8	
9	114		136 3/4	22 3/4	
16	113 1/2		136 1/2	23	
23	114		137 1/8	23 1/8	
30	114		137	23	
Feb. 6	115 1/2		138 3/4	23 1/4	
13	116 1/2		137 7/8	21 3/8	
20	118		138 1/2	20 1/2	
27	118		137 1/2	19 1/2	
Mar. 5	118 1/2		137 1/4	18 3/4	
12	119		138 1/4	19 1/4	
19	122		141 3/8	19 3/8	
26	126		144 7/8	18 7/8	
April 2	129		147 1/4	18 1/4	
9	134		149 3/4	15 3/4	
16	135		150 1/4	15 1/4	
23	142		155 7/8	13 7/8	
30	141 1/2		154 7/8	13 3/8	
May 7	143 1/2		156 1/4	12 3/4	
14	142		154 1/4	12 1/4	
21	140 1/2		151	10 1/2	
28	139		147 3/4	8 3/4	
June 4	142 1/2		149 7/8	7 3/8	
11	144 1/2		152 7/8	8 3/8	
18	143 1/2		149 3/4	6 1/4	
25	144 1/2		149 1/2	5	
July 2	144		148 5/8	4 5/8	
9	144 1/2		149	4 1/2	
16	146		151 1/2	5 1/2	

Date	East-central Illinois farm price	Dec.	July	Basis	Difference
		1956 Crop			
1956					
April 4	120	142 7/8		22 7/8	
11	122	144 1/2		22 1/2	
18	124	143 5/8		19 5/8	
25	123	143 1/4		20 1/4	
May 2	122	142 1/8		20 1/8	
9	121	141 1/4		20 1/4	
16	118	137 3/8		19 3/8	
23	119	138 1/8		19 1/8	
31	119	136 1/2		17 1/2	
June 6	119	138 3/4		19 3/4	
13	122	142 1/2		20 1/2	
20	119	138 5/8		19 5/8	
27	119	137 7/8		18 7/8	
July 5	117	136		19	
11	118	137 1/2		19 1/2	
18	120	139 1/2		19 1/2	
25	117	137		20	
Aug. 1	118	138 3/8		20 3/8	
8	118	138 3/4		20 3/4	
15	120 1/2	142 5/8		22 1/8	
22	117	139 1/8		22 1/8	
29	116	138 3/4	149	22 3/4	10 1/4
Sept. 6	117	139 1/8	149 1/2	22 1/8	10 3/8
12	115 1/2	137 1/4	147 3/4	21 3/4	10 1/2
19	115 1/2	137 1/2	147 1/4	22	9 3/4
26	115 1/2	138 7/8	148 3/4	23 3/8	9 1/2
Oct. 3	117	138	147 1/2	21	9 1/4
10	112 1/2	135 5/8	145 3/8	23 1/8	9 3/4
17	113 1/2	135 3/4	146 1/2	22 1/4	10 3/4
24	116 1/2	137 5/8	146 3/8	21 1/8	8 3/4
31	120	139 1/2	148 1/2	19 1/2	9
Nov. 7	119 1/2	137 1/2	146 3/4	18	9 1/4
14	123	136 3/4	148 7/8	13 3/4	12 1/8
21	124 1/2	138 1/4	146 3/4	13 3/4	8 1/2
28	126	137 3/4	145 3/4	11 3/4	8
Dec. 5	125	134 3/4	144 5/8	19 5/8	9 7/8
12	125	134 1/8	143 7/8	18 7/8	9 3/4
19	122	131	141	19	10
26	122		141	19	
1957					
Jan. 2	122		140 7/8	18 7/8	
9	122		140 1/2	18 1/2	
16	122		142 1/4	20 1/4	
23	121 1/2		140 1/4	18 3/4	
30	121		139 5/8	18 5/8	
Feb. 6	114		135 1/2	21 1/2	
13	116		136	20	
20	118		137 5/8	19 5/8	
27	116		135 1/4	19 1/4	
Mar. 5	118 1/2		137 1/2	19	
12	119		138 1/8	19	
19	116		134 5/8	18 5/8	
26	117 1/2		135 5/8	18 1/8	
April 2	116		133 1/8	17 1/8	
9	118		134	16	
16	118		134 1/2	16 1/2	
23	117 1/2		132 3/4	15 1/4	
30	118 1/2		131 7/8	13 3/8	
May 7	119 1/2		132 3/8	12 7/8	
14	120		133	13	
21	122		133 7/8	11 7/8	
28	121		130 3/4	9 3/4	
June 4	119 1/2		127 3/4	8 1/4	
11	119 1/2		127 3/4	8 1/4	
18	119		128 1/8	9 1/8	
25	120		129 7/8	9 7/8	
July 2	120		131	11	
9	121 1/2		131 3/8	9 7/8	
16	122		128 3/4	6 3/4	

(Table is continued on next page)

Appendix Table 1. — Continued

Date	East-central Illinois farm price	Dec.	July	Basis	Difference
		1957 Crop			
1957					
April 4.....	106	127½		21½	
11.....	108	129⅜		21⅜	
18.....	107	128⅞		21⅞	
25.....	105	126½		21½	
May 2.....	104	125¼		21¼	
9.....	104	125⅛		21⅛	
16.....	105	127¼		22¼	
23.....	106½	128⅛		21⅝	
29.....	104	125⅜		21¼	
June 6.....	100½	121⅝		21⅛	
13.....	102	123¾		21¾	
20.....	102	123⅜		21⅜	
27.....	105	126⅝		21⅝	
July 5.....	107	128¼		21¼	
11.....	107	128¼		21¼	
18.....	109	130		21	
25.....	108	128½		20½	
Aug. 1.....	105½	125⅞		20⅜	
8.....	107	127⅜		20⅜	
15.....	104½	125⅝		21⅛	
22.....	107	127¼		20¼	
29.....	102½	123⅛	133¼	20⅝	10⅛
Sept. 5.....	104½	125¼	135⅛	20¾	9⅞
12.....	103	123⅜	133⅛	20⅜	9¾
19.....	102½	123¼	133½	20¾	10¼
26.....	99	120	130¾	21	10¾
Oct. 3.....	100	120¾	130⅝	20¾	9⅝
10.....	100	121	130⅜	21	9⅜
17.....	100½	121⅝	131½	21⅛	9⅞
24.....	101	121⅜	130⅜	20⅜	9
31.....	99	118¼	127⅞	19¼	9⅝
Nov. 7.....	100	117¾	128⅛	17¾	10⅜
14.....	100	118⅝	127⅜	18⅝	8¾
21.....	105	117¾	127	12¾	9¼
29.....	105	116¾	125¾	11¾	9
Dec. 5.....	109	119⅝	125¾	16¾	6⅛
12.....	108	117½	126	18	8½
19.....	105	112¼	123½	18½	11¼
26.....	104		121½	17½	
1958					
Jan. 2.....	105		121¾	16¾	
9.....	105½		121	15½	
16.....	103		118⅞	15⅞	
23.....	101		117⅛	16⅛	
30.....	103½		116	12½	
Feb. 6.....	104½		116⅞	12⅜	
13.....	105		116⅞	11⅞	
20.....	106		118	12	
27.....	108		119⅞	11⅞	
Mar. 6.....	110½		120¾	10¼	
13.....	110		121⅛	11⅛	
20.....	109		118⅞	9⅞	
27.....	110½		120	9½	
April 3.....	113		122⅜	9⅜	
10.....	120		126½	6½	
17.....	122		126½	4½	
24.....	121		125⅛	4⅛	
May 1.....	120½		125⅞	4⅞	
8.....	120		125⅜	5⅜	
15.....	120		124¾	4¾	
22.....	123		128⅝	5⅝	
29.....	123		130	7	
June 5.....	121		129¾	8¾	
12.....	124		132	8	
19.....	126½		132	5½	
26.....	124		135	11	
July 3.....	122		132¼	10¼	
10.....	121		130½	9½	
17.....	123½		134¼	10¾	

Date	East-central Illinois farm price	Dec.	July	Basis	Difference
		1958 Crop			
1958					
April 3.....	97	118⅝		21⅝	
11.....	100	119⅛		19⅛	
18.....	99	120⅝		21⅝	
25.....	98½	119½		21	
May 2.....	99	119⅝		20⅝	
9.....	97	117¾		20¾	
16.....	97	117⅜		20⅜	
23.....	97	118⅜		21⅜	
29.....	102	122⅞		20⅞	
June 6.....	100	121⅛		21⅛	
13.....	99	120		21	
20.....	100	120⅛		20⅛	
27.....	101	121⅛		20⅛	
July 3.....	101	120¾		19¾	
11.....	100	120¼		20¼	
18.....	105½	125⅞		20⅜	
25.....	101	121⅛		20⅛	
Aug. 1.....	102	122⅛		20⅛	
8.....	101	119⅜		18⅜	
15.....	97½	117⅛		19⅝	
22.....	96	115⅞		19⅞	
29.....	98	117⅞	126⅞	19⅞	9
Sept. 5.....	97	117	125⅝	20	8⅝
12.....	96	115⅝	125	19⅝	9⅜
19.....	95	115⅛	124⅜	20	9¼
26.....	97	115	124⅞	18	9⅞
Oct. 3.....	98	113½	122½	15½	9
10.....	96	113⅜	122⅜	17⅜	9
17.....	95	110⅝	120½	15⅝	9⅞
24.....	93½	109⅜	119½	15⅞	10⅛
31.....	94½	110¼	119¾	15¾	9½
Nov. 7.....	97½	112½	120⅞	15	8⅜
14.....	99	112⅞	120	13⅞	7⅜
21.....	103½	114⅝	120¼	11⅛	5⅝
28.....	104	113⅛	120½	9⅛	7⅜
Dec. 5.....	105	114⅝	120	15	5⅝
12.....	104½	114½	118¾	14¼	4¼
19.....	104½	112½	118⅛	13⅞	5⅝
24.....	103½		116½	13	
1959					
Jan. 2.....	103½		116¾	13¼	
9.....	104		116½	12½	
16.....	104		115⅝	11⅝	
23.....	104½		116¾	12¼	
30.....	104		115½	11½	
Feb. 6.....	104½		116⅜	11⅞	
13.....	105		116⅞	11⅞	
20.....	105		117⅜	12⅜	
27.....	105		119⅛	14⅛	
Mar. 6.....	105		119⅜	14⅜	
13.....	106½		119⅝	13⅛	
20.....	107½		119¼	11¾	
26.....	109		120⅞	11⅞	
April 3.....	112½		123⅞	11⅜	
10.....	115½		125½	10	
17.....	116		124⅞	8⅞	
24.....	115		124½	9½	
May 1.....	116½		125½	9	
8.....	116½		124⅝	8⅛	
15.....	117½		126¼	8¾	
22.....	117		126¼	9¼	
29.....	116		124⅜	8⅜	
June 5.....	116½		125½	9	
12.....	118		126⅜	8⅜	
19.....	118½		126⅜	7⅞	
26.....	118		126	8	
July 2.....	117		124¾	7¾	
10.....	116		123⅜	7⅜	
17.....	117		125⅜	8⅜	

(Table is continued on next page)

Appendix Table 1. — Continued

Date	East-central Illinois farm price	Dec.	July	Basis	Difference
		1959 Crop			
1959					
April 3	95	114¾		19¾	
10	95	114¾		19¾	
17	95	115⅝		20⅝	
24	95	114¾		19¾	
May 1	96	115½		19½	
8	95½	115⅜		19⅞	
15	96	115¾		19¾	
22	95	115⅜		20⅜	
29	94	113¾		19¾	
June 5	93½	113½		20	
12	94	113⅝		19⅝	
19	96	115⅞		19⅞	
26	98	115		17	
July 2	97	114¼		17¼	
10	99	115		16	
17	98	114⅝		16⅝	
24	98	113⅞		15⅞	
31	98½	113⅞		15⅜	
Aug. 7	97	112⅜		15⅜	
14	97½	112½		15	
21	97	112⅜		15⅜	
28	97	111¾	118⅞	14¾	7⅛
Sept. 4	96	112¼	119¼	16¼	7
11	94	110⅝	117¾	16⅝	7⅛
18	94	109⅝	117½	15⅝	7⅞
25	94	109⅞	117¾	15⅞	7⅞
Oct. 2	94	110	118¼	16	8¼
9	94	109⅞	118⅛	15⅞	8¼
16	94	108⅛	117½	14⅛	9⅜
23	95	109⅝	118⅜	14⅝	8¾
30	97	110	118½	13	8½
Nov. 6	104	113	120⅝	9	7⅝
13	101	112⅞	120⅞	11⅞	8
20	101½	110½	118½	9	8
27	100	110⅛	118	10⅛	7⅞
Dec. 4	100	109¾	118⅜	18⅜	8⅝
11	100	109¾	118¼	18¼	8½
18	100	108⅞	118⅛	18⅛	9¼
24	101		118	17	
31	104		118¾	14¾	
1960					
Jan. 8	105		119¼	14¼	
15	106		119½	13½	
22	106		119⅝	13⅝	
29	105½		119¼	13¾	
Feb. 5	106		119⅛	13⅛	
12	105½		119	13½	
19	103½		118¼	14¾	
26	104		118⅞	14⅞	
Mar. 4	105½		119⅜	13⅞	
11	106½		119¼	12¾	
18	107		119	12	
25	109		120	11	
April 1	111		121⅞	10⅞	
8	110½		121¼	10¾	
14	111		121⅝	10⅝	
22	111		121½	10½	
29	110		121⅛	11⅛	
May 6	109½		120⅝	11⅛	
13	110		120⅝	10⅝	
20	111		121⅞	10⅞	
27	111½		121½	10	
June 3	111½		120	8½	
10	110		118⅝	8⅝	
17	110		118¼	8¼	
24	108		116⅛	8⅛	
July 1	109		116½	7½	
8	109½		118⅝	9⅛	
15	109		117	8	

Date	East-central Illinois farm price	Dec.	July	Basis	Difference
		1960 Crop			
1960					
April 4	95	110⅞		15⅞	
11	95	110¼		15¼	
18	95	110¼		15¼	
25	95	110⅝		15⅝	
May 2	94	110¾		16¾	
9	94	111½		17½	
16	95	112¾		17¾	
23	97	113⅝		16⅝	
31	97	113¼		16¼	
June 6	95	112⅜		17⅜	
13	95	111⅝		16⅝	
20	95	112¼		17¼	
27	95½	112⅜		16⅝	
July 5	97	114		17	
11	96	113¼		17¼	
18	96	111⅞		15⅞	
25	97	112¼		15¼	
Aug. 1	98	113¼		15¼	
8	95	111⅛		16⅛	
15	95	110¼		15¼	
22	99	110¼		11¼	
29	96½	110¾	118¼	14¼	7½
Sept. 6	96	110⅜	118⅜	14⅜	8
12	96	110	118¼	14	8¼
19	95½	109¼	118⅛	13¾	8⅞
26	95	108⅞	118½	13⅞	9⅝
Oct. 3	96	108⅞	118⅝	12⅞	9¾
10	95	108¾	117¾	9	
17	94	107⅞	117⅜	13⅞	9½
24	93	108¾	118⅝	15¾	9⅞
31	91½	107¾	117⅝	16¼	9⅞
Nov. 7	90	107⅝	118¼	17⅝	10⅝
14	85	103⅝	115⅝	18⅝	12
21	79	101	112¾	22	11¾
28	84	102⅝	114¾	18⅝	12⅛
Dec. 5	90	104	115⅝	25⅝	11⅝
12	94	101¾	115⅞	21⅞	14⅛
19	96	100½	114½	18½	14
27	99		115¾	16¾	
1961					
Jan. 3	99½		117⅛	17⅝	
9	100		118⅝	18⅝	
16	100		119	19	
23	101½		118½	17	
30	105		123⅝	18⅝	
Feb. 6	108½		124	15½	
13	105		122¾	17¾	
20	103		120⅞	17⅞	
27	103		121½	18½	
Mar. 6	105		123¼	18¼	
13	105		121¼	16¼	
20	103		118½	15½	
27	101		117¼	16¼	
April 3	95½		112¾	16¾	
10	98		112	14	
17	100		112⅝	12⅝	
24	103		116½	13½	
May 1	102		119⅛	17	
8	102½		116	13½	
15	104		117⅝	13⅝	
22	102		114	12	
29	103		115⅝	12⅝	
June 5	104½		117¼	12¾	
12	101½		114	12½	
19	100½		112⅜	11⅞	
26	100½		112⅞	12⅜	
July 3	102½		114	11½	
10	103		114⅜	11⅜	
17	103½		114½	11	

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Appendix Table 1. — Concluded

Date	East-central Illinois farm price	Dec.	July	Basis	Difference
		1961 Crop			
1961					
April 4	101	117 7/8		16 7/8	
11	100	118 3/4		18 3/4	
18	100 1/2	118 1/4		17 3/4	
25	103	120 3/8		17 3/8	
May 2	103	120 5/8		17 5/8	
9	104	120 5/8		16 5/8	
16	105 1/2	121 5/8		16 1/8	
23	104	119 1/2		15 1/2	
31	105	121 3/8		16 3/8	
June 6	106	122 1/4		16 1/4	
13	104	119 1/2		15 1/2	
20	103 1/2	119 3/8		15 7/8	
27	103 1/2	118 3/4		15 1/4	
July 5	106	121 1/4		15 1/4	
11	107	122 3/4		15 3/4	
18	105	120 1/8		15 1/8	
25	104 1/2	119 1/2		15	
Aug. 1	102	116 5/8		14 5/8	
8	100	115		15	
15	101	116 5/8		15 5/8	
22	100	115 1/2		15 1/2	
29	100	114 1/4	125 1/4	14 1/4	11
Sept. 6	98 1/2	113 1/4	124 3/4	14 3/4	11 1/2
13	97	113 1/4	125 1/2	16 1/4	12 1/4
20	95	111 1/8	123	16 1/8	11 7/8
27	94	109 3/4	122	15 3/4	12 1/4
Oct. 3	93	109 1/4	121 1/2	16 1/4	12 1/4
10	94 1/2	110 3/4	122 3/4	15 3/4	12 1/2
17	95	109 1/2	122 1/8	14 1/2	12 5/8
24	97	111 1/4	122 1/2	14 1/4	11 1/4
31	95	108 1/4	120 5/8	13 1/4	12 3/8
Nov. 7	97	109 1/4	120 3/8	12 1/4	11 1/8
14	100	110 7/8	120 1/8	10 7/8	9 1/4
21	102	109 3/4	120	7 3/4	10 1/4
28	103	109 3/4	118 5/8	6 3/4	8 7/8
Dec. 5	100	107	118	18	11
12	101 1/2	107 5/8	117 1/2	16	9 7/8
19	101 1/2	107 3/4	115 7/8	14 3/8	8 1/8
26	102		116 3/4	14 3/4	
1962					
Jan. 2	102 1/2		117 1/2	15	
9	100		116 3/4	16 3/4	
16	100		114 1/2	14 1/2	
23	102		113 3/8	11 3/8	
30	101		113 1/2	12 1/2	
Feb. 6	101 1/2		115	13 1/2	
13	101		114 1/4	13 1/4	
20	101		112 1/2	11 1/2	
27	101		112 1/4	11 1/4	
Mar. 6	102		113 3/4	11 3/4	
13	102 1/2		113 1/2	11	
20	105 1/2		116 5/8	11 1/8	
27	105 1/2		116 3/8	10 7/8	
April 3	106		117 5/8	11 5/8	
10	104		116 3/4	12 3/4	
17	104		114 7/8	10 7/8	
24	103 1/2		115 3/4	12 1/4	
May 2	103 1/2		116 1/4	12 3/4	
9	104 1/2		116 1/4	11 3/4	
16	106		114 1/4	8 3/4	
23	106 1/2		115	8 1/2	
31	106		114 1/2	8 1/2	
June 5	106		114 1/4	8 1/4	
12	103 1/2		110 5/8	7 1/8	
19	105 1/2		112 1/2	7	
26	104		110 1/4	6 1/4	
July 3	105		111	6	
10	103 1/2		110 3/8	6 7/8	
17	101 1/2		108 3/4	7 1/4	

Date	East-central Illinois farm price	Dec.	July	Basis	Difference
		Mean 1955-61 Crops			
April 4	105 1/8	124 3/8		19 1/4	
11	105 3/4	124 3/4		19	
18	106 1/8	125 1/8		19	
25	105 7/8	124 5/8		18 3/4	
May 2	105 5/8	124 1/2		18 7/8	
9	105 1/2	124 1/2		19	
16	105 5/8	124 1/4		18 5/8	
23	105 7/8	124 3/8		18 1/2	
31	105 3/4	124 1/8		18 3/8	
June 6	104 3/8	123 3/8		19	
13	104 3/4	123 5/8		18 7/8	
20	103 7/8	122 7/8		19	
27	105 1/2	123 5/8		18 1/8	
July 5	106	124 1/8		18 1/8	
11	106	124 1/4		18 1/4	
18	106 1/4	124 1/2		18 1/4	
25	104 7/8	122 7/8		18	
Aug. 1	104 3/4	122 3/4		18	
8	103 1/2	121 1/2		18	
15	102 7/8	121 1/4		18 3/8	
22	103 3/8	121 1/8		17 3/4	
29	102 1/2	120 5/8	129 3/8	18 1/8	8 3/4
Sept. 6	102 1/2	120 7/8	129 5/8	18 3/8	8 3/4
13	101 3/8	119 5/8	129	18 1/4	9 3/8
20	101 3/8	119 1/2	129	18 1/8	9 1/2
27	101 5/8	119 7/8	129 3/4	18 1/4	9 7/8
Oct. 3	101 5/8	118 7/8	128 1/2	17 1/4	9 5/8
10	100 3/4	118 5/8	128	17 7/8	9 3/8
17	99 3/4	117 3/8	127 3/8	17 5/8	10
24	99 1/2	117 5/8	127 1/8	18 1/8	9 1/2
31	100 1/2	117 1/2	128 3/8	17	10 7/8
Nov. 7	102 3/8	118 1/8	127 7/8	15 3/4	9 3/4
14	101 7/8	117 1/8	126 7/8	15 1/4	9 3/4
21	102 3/4	116 3/4	125 7/8	14	9 1/8
28	104 1/8	116 3/8	125 5/8	12 1/4	9 1/4
Dec. 5	106 3/8	116 5/8	125 1/2	19 1/8	8 7/8
12	107 1/8	116	125 3/8	18 1/4	9 3/8
19	106 1/8	113 7/8	123 3/4	17 5/8	9 7/8
26	106 1/2		123 3/8	16 7/8	
Jan. 2	107 1/4		123 7/8	16 5/8	
9	107 1/8		124 1/8	17	
16	107		123 3/4	16 3/4	
23	107 1/2		123 3/8	15 7/8	
30	107 3/4		123 1/2	15 3/4	
Feb. 6	107 7/8		123 5/8	15 3/4	
13	107 3/4		123 3/8	15 5/8	
20	108 7/8		123 3/8	14 1/2	
27	107 7/8		123 1/2	15 5/8	
Mar. 6	109 1/4		124 1/2	15 1/4	
13	109 3/4		124 3/8	14 5/8	
20	110		124	14	
24	111 1/8		125	13 7/8	
April 3	111 7/8		125 1/2	13 5/8	
10	114 1/4		126 1/2	12 1/4	
17	115 1/4		126 3/8	11 1/8	
24	116 1/8		127 3/8	11 1/4	
May 2	116		128 1/4	12 1/4	
9	116 5/8		127 1/4	10 5/8	
16	117		127 1/4	10 1/4	
23	117 3/8		127 1/4	9 7/8	
31	117		126 3/8	9 3/8	
June 5	117 3/8		126 3/8	9	
12	117 3/8		126	8 5/8	
19	117 5/8		125 5/8	8	
26	117		125 5/8	8 5/8	
July 3	117 1/8		125 1/2	8 3/8	
10	117		125 3/8	8 3/8	
17	117 1/2		125 5/8	8 1/8	

Appendix Table 2. — Soybeans: Weekly Prices, Cash Bid to Farmers at Local Elevators in East-Central Illinois, November and July Futures, Basis, and November-July Spreads, 1955-61 Crop Years

Date	East-central Illinois farm price	Nov.	July	Basis	Difference
		1955 Crop			
1955					
April 4.....	219	236		17	
11.....	215	231¾		16¾	
18.....	216	231½		15½	
25.....	215	233½		18½	
May 2.....	220	232¼		12¼	
9.....	220	237½		17½	
16.....	217	235¾		18¾	
23.....	216	233¾		17¾	
31.....	215½	233¼		17¾	
June 6.....	210	227¼		17¼	
13.....	214½	231¼		16¾	
20.....	214	231		17	
27.....	213	229		16	
July 5.....	212½	228¼		15¾	
11.....	208½	225¼		16¾	
18.....	206	222½		16½	
25.....	203	220		17	
Aug. 1.....	204½	221¼		16¾	
8.....	204	221¼		17¼	
15.....	201	217¾		16¾	
22.....	205	221½		16½	
29.....	202	219¼		17¼	
Sept. 6.....	202	219		17	
12.....	203½	218⅞		15⅜	
19.....	206½	218¾		12¼	
26.....	233	245¾		12¾	
Oct. 3.....	222½	237	244	14½	7
10.....	222½	236½	243½	14	7
17.....	215	232½	238½	17½	6
24.....	208	229¼	236	21¼	6¾
31.....	213½	236½	241¾	23	5¼
Nov. 7.....	216	235¾	240½	24½	4¾
14.....	215	235½	239½	24½	4
21.....	214		236⅞	22⅞	
28.....	213		234¼	21¼	
Dec. 5.....	220½		236½	16	
12.....	222		238½	16½	
19.....	222		238	16	
27.....	225		241½	16½	
1956					
Jan. 3.....	225½		242¾	17¼	
9.....	227½		248¼	20¾	
16.....	230		248½	18½	
23.....	230		247¼	17¼	
30.....	233½		252¾	19¼	
Feb. 6.....	236½		253¾	17¼	
13.....	236		254	18	
20.....	244		266¾	22¾	
27.....	249½		269¼	19¾	
Mar. 5.....	246½		264½	18	
12.....	249½		266½	17	
19.....	248		264	16	
26.....	255		270¾	15¾	
April 2.....	262		278	16	
9.....	271		285	14	
16.....	281		295½	14½	
23.....	291		306¼	15¼	
30.....	310		324½	14½	
May 7.....	312		324¾	12¾	
14.....	311½		324¼	12¾	
21.....	310		322	12	
28.....	288½		301	12½	
June 4.....	291½		303	11½	
11.....	299		313½	14½	
18.....	280		295¾	15¾	
25.....	284½		299¾	15¼	
July 2.....	258½		274¼	15¾	
9.....	257		272¼	15¼	
16.....	251		266¼	15¼	

Date	East-central Illinois farm price	Nov.	July	Basis	Difference
		1956 Crop			
1956					
April 4.....	225	246¾		21½	
11.....	231	252¾		21¾	
18.....	229	248¼		19¼	
25.....	238	258½		20½	
May 2.....	230	256¼		26¼	
9.....	233	254½		21½	
16.....	235	255		20	
23.....	231	252¾		21¾	
31.....	233	252		19	
June 6.....	235	260		25	
13.....	240	266		26	
20.....	235½	260		24½	
27.....	232	256		24	
July 5.....	226	245¼		19¼	
11.....	226	256¼		19¼	
18.....	226½	256¾		19¼	
25.....	218	237		19	
Aug. 1.....	219	237¾		18¾	
8.....	220½	239		18½	
15.....	224½	242¾		18¼	
22.....	218½	237½		19	
29.....	216	235¾		19¾	
Sept. 6.....	213	232¼		19¼	
12.....	212½	234		21½	
19.....	210½	235½		25½	
26.....	209½	236½		25	
Oct. 3.....	215	238¾	247¼	23¾	8
10.....	211½	238	248¼	26½	10¼
17.....	214½	241½	254¼	27	12¾
24.....	219½	243	255	23½	12
31.....	228	249¼	260¼	21¼	11
Nov. 7.....	228	247	257	29	10
14.....	238½	255¼	261¼	22¾	6
21.....	241		258½	17½	
28.....	245		262¾	17¾	
Dec. 5.....	236		255¼	19¼	
12.....	238½		253¾	15¼	
19.....	233		249¼	16¼	
26.....	236		249⅝	13⅝	
1957					
Jan. 2.....	236½		251½	15	
9.....	237½		253⅜	16⅜	
16.....	242½		256½	14	
23.....	239		251⅜	12⅜	
30.....	238½		247½	9	
Feb. 6.....	232½		244	11½	
13.....	231½		243	11½	
20.....	228½		238¾	10¼	
27.....	232		240⅝	8⅝	
Mar. 5.....	233		243½	10½	
12.....	231½		239¾	8¼	
19.....	229½		236¾	7¼	
26.....	230½		237⅛	6⅝	
April 2.....	230		237½	7½	
9.....	231½		240	8½	
16.....	226		237⅜	11⅜	
23.....	224½		235	10½	
30.....	226½		237⅜	10⅞	
May 7.....	226½		237⅛	10⅜	
14.....	226		235⅝	9⅝	
21.....	222		235⅛	13⅛	
28.....	223		235¾	12¾	
June 4.....	222		234⅞	12⅞	
11.....	221		232⅛	11⅛	
18.....	221½		231½	10	
25.....	222		233⅝	11⅝	
July 2.....	224½		238⅜	13⅞	
9.....	227½		242¼	14¾	
16.....	230		247	17	

(Table is continued on next page)

Appendix Table 2. — Continued

Date	East-central Illinois farm price	Nov.	July	Basis	Difference
		1957 Crop			
1957					
April 4	205	227		22	
11	206	228		22	
18	205	225 3/8		20 3/8	
25	203	224 1/2		21 1/2	
May 2	202	223 5/8		21 5/8	
9	203	224 3/8		21 3/8	
16	203	224 1/2		21 1/2	
23	203	224 3/8		21 3/8	
31	201 1/2	222 5/8		21 1/8	
June 6	200	220 3/4		20 3/4	
13	200	221 1/4		21 1/4	
20	202	223 1/8		21 1/8	
27	205	227 1/4		22 1/4	
July 5	208	229 1/2		21 1/2	
11	213	234 1/2		21 1/2	
18	223	244 3/4		21 3/4	
25	217	238 1/4		21 1/4	
Aug. 1	215	236		21	
8	218 1/2	239		20 1/2	
15	220 1/2	241		20 1/2	
22	217 1/2	237 3/4		20 1/4	
29	217 1/2	237 3/4		20 1/4	
Sept. 5	216	236 3/4		20 3/4	
12	214 1/2	234 3/8		19 7/8	
19	212	232 5/8		20 5/8	
26	208	229 1/4		21 1/4	
Oct. 3	207	227 1/8	234	20 1/8	6 7/8
10	212	230 1/2	239 1/8	18 1/2	8 5/8
17	212 1/2	233 3/8	242	20 7/8	8 5/8
24	209	228 3/4	237	19 3/4	8 1/4
31	208	226 1/2	236 1/4	18 1/2	9 3/4
Nov. 7	212	229 1/8	239 3/8	27 3/8	10 1/4
14	213	227	236 3/8	23 3/8	9 3/8
21	217		238 7/8	21 7/8	
29	217		238 1/8	21 1/8	
Dec. 5	217 1/2		237 3/4	20 1/4	
12	215		233 1/8	18 1/8	
19	214		232 5/8	18 5/8	
26	212		230	18	
1958					
Jan. 2	212 1/2		229 1/2	17	
9	213 1/2		230 1/4	16 3/4	
16	214		230 1/2	16 1/2	
23	214		229 1/8	15 1/8	
30	212		225 1/4	13 1/4	
Feb. 6	213 1/2		227 1/2	14	
13	213		226 3/4	13 3/4	
20	215		228 5/8	13 5/8	
27	214 1/2		227	12 1/2	
Mar. 6	217		227 3/8	10 3/8	
13	217 1/2		228 1/8	10 5/8	
20	217		227 1/8	10 7/8	
27	218 1/2		227 5/8	9 1/8	
April 3	219 1/2		228 3/4	9 1/4	
10	222		233	11	
17	222 1/2		233 5/8	11 1/8	
24	219 1/2		230 1/2	11	
May 1	220		229 5/8	9 5/8	
8	220		227 1/8	7 1/8	
15	219		227		
22	220		228 1/8	8 1/8	
29	221		229 1/2	8 1/2	
June 5	219		226 5/8	7 5/8	
12	220		227 1/2	7 1/2	
19	218 1/2		224 1/4	5 3/4	
26	219		224 7/8	5 7/8	
July 3	219		224 3/8	5 3/8	
10	219		224 1/8	5 1/8	
17	226		235	9	

Date	East-central Illinois farm price	Nov.	July	Basis	Difference
		1958 Crop			
1958					
April 3	198 1/2	219 3/4		21 1/4	
11	203	223 3/8		20 3/8	
18	206	226 1/4		20 1/4	
25	201	221 3/4		20 3/4	
May 2	202 1/2	222 1/2		20	
9	201	221 3/4		20 3/4	
16	201	221 3/8		20 3/8	
23	202	222 1/4		20 1/4	
29	205	225 1/2		20 1/2	
June 6	201	221 1/4		20 1/4	
13	203	222 3/4		19 3/4	
20	202	221 3/4		19 3/4	
27	202 1/2	222		19 1/2	
July 3	202	221 5/8		19 5/8	
11	202	222		20	
18	211	230 3/4		19 3/4	
25	204 1/2	224 1/4		19 3/4	
Aug. 1	206	224 5/8		18 5/8	
8	202	222 5/8		20 5/8	
15	202	222 1/8		20 1/8	
22	200	219 1/4		19 1/4	
29	203	223		20	
Sept. 5	202	221 5/8		19 5/8	
12	201	220 5/8		19 5/8	
19	200	218 3/4		18 3/4	
26	200	219 1/2		19 1/2	
Oct. 3	199	216	225 1/2	17	9 1/2
10	201	216 1/8	225 3/8	15 1/8	9 1/4
17	197 1/4	213 1/2	223 1/2	16	10
24	194	210 7/8	222 5/8	16 7/8	11 3/4
31	194	210 3/4	223	16 3/4	12 1/4
Nov. 7	198	214	226 1/8	28 1/8	12 1/8
14	198	213 1/4	225	27	11 5/8
21	201		224 1/4	23 1/4	
28	201		223	22	
Dec. 5	203		223 7/8	20 7/8	
12	206		222	16	
19	209		222	13	
24	209		219 1/2	10 1/2	
1959					
Jan. 2	207		218 7/8	11 7/8	
9	209		218	9	
16	210 1/2		219 1/8	8 5/8	
23	211 1/2		220	8 1/2	
30	210 1/2		219 3/4	9 1/4	
Feb. 6	211 1/2		220 1/2	9	
13	212		221 1/2	9 1/2	
20	210		221 1/8	11 1/8	
27	212		224 3/4	12 3/4	
Mar. 6	212		224 1/8	12 1/8	
13	213		225 1/2	12 1/2	
20	213 1/2		225 5/8	12 1/8	
26	214 1/2		226 3/4	12 1/4	
April 3	215 1/2		227 1/4	11 3/4	
10	216 1/2		228 1/8	11 5/8	
17	218		228 1/4	10 1/4	
24	219 1/2		228 7/8	9 3/8	
May 1	220		228 7/8	8 7/8	
8	221		229 1/8	8 1/8	
15	220 1/2		229 5/8	9 1/8	
22	219		228 3/4	9 3/4	
29	216		225 3/8	9 3/8	
June 5	215 1/2		224 3/4	9 1/4	
12	217		224 3/4	7 3/4	
19	216 1/2		223 3/8	6 7/8	
26	217		224 1/2	7 1/2	
July 2	217		223 3/4	6 3/4	
10	213		218 7/8	5 7/8	
17	215		220 5/8	5 5/8	

(Table is continued on next page)

Appendix Table 2. — Continued

Date	East-central Illinois farm price	Nov.	July	Basis	Difference
		1959 Crop			
1959					
April 3	194	213 5/8		19 5/8	
10	195	214 3/4		19 3/4	
17	193	213		20	
24	192	211 1/4		19 1/4	
May 1	193	211 5/8		18 5/8	
8	193	211 3/4		18 3/4	
15	195	213 7/8		18 7/8	
22	194 1/2	213 1/2		19	
29	193	212 1/8		19 1/8	
June 5	190 1/2	208 7/8		18 3/8	
12	191	209 1/4		18 1/4	
19	193 1/2	212 3/8		18 7/8	
26	193 1/2	212		18 1/2	
July 2	191	210 5/8		19 5/8	
10	194	211 7/8		17 7/8	
17	200	218 3/4		18 3/4	
24	203 1/2	220 3/8		16 7/8	
31	203	220 3/8		17 3/8	
Aug. 7	199	216 3/8		17 3/8	
14	195	213 3/8		18 3/8	
21	195	212 5/8		17 5/8	
28	193	210 5/8		17 5/8	
Sept. 4	194 1/2	212		17 1/2	
11	194	210 1/4		16 1/4	
18	193 1/2	208 1/2		15	
25	191	209		18	
Oct. 2	197	213 3/4	224 1/8	16 3/4	10 3/8
9	199	215 1/2	225 1/2	16 1/2	10
16	199	212 3/4	223 5/8	13 3/4	10 7/8
23	198	214 1/4	225 3/8	16 1/4	11 1/8
30	201	217	228 1/2	16	11 1/2
Nov. 6	209	223 1/4	232	23	8 3/4
13	208	221 1/4	229 1/8	21 1/8	7 7/8
20	206		225	19	
27	207		225 1/2	18 1/2	
Dec. 4	208		228 3/4	20 3/4	
11	204		222 1/2	18 1/2	
18	202		217 1/4	15 1/4	
24	205		218 1/2	13 1/2	
31	206		219 1/4	13 1/4	
1960					
Jan. 8	208		221 5/8	13 5/8	
15	207		218 5/8	11 5/8	
22	208		218 3/4	10 3/4	
29	206		216 5/8	10 5/8	
Feb. 5	205		215 1/8	10 1/8	
12	203 1/2		215	11 1/2	
19	203 1/2		214 5/8	11 1/8	
26	202		213 5/8	11 5/8	
Mar. 4	203		215 1/8	12 1/8	
11	204		216 1/8	12 1/8	
18	205		215 1/2	10 1/2	
25	207 1/2		217	9 1/2	
April 1	212		219 1/2	7 1/2	
8	212		217 1/2	5 1/2	
14	207 1/2		216	8 1/2	
22	207 1/2		215 3/8	7 7/8	
29	206		215 1/2	9 1/2	
May 6	207 1/2		215 5/8	8 1/8	
13	206		214 1/8	8 1/8	
20	207 1/2		215 7/8	8 3/8	
27	206 1/2		214 5/8	8 1/8	
June 3	207		214 1/2	7 1/2	
10	205		212	7	
17	204		211	7	
24	204		211 1/8	7 1/8	
July 1	205		213 1/4	8 1/4	
8	205		212 1/2	7 1/2	
15	205		213 1/8	8 1/8	

Date	East-central Illinois farm price	Nov.	July	Basis	Difference
		1960 Crop			
1960					
April 4	188	209 1/8		21 1/8	
11	190	209 1/4		19 1/4	
18	190	209		19	
25	188	208 1/2		20 1/2	
May 2	190	209 3/4		19 3/4	
9	188	208 3/4		20 3/4	
16	190	210 3/8		20 3/8	
23	191	210		21	
31	190	210		20	
June 6	189	209 5/8		20 5/8	
13	189	207 5/8		18 5/8	
20	189	207 3/4		18 3/4	
27	190	208 3/4		18 3/4	
July 5	192	211 3/4		19 3/4	
11	191	210 1/4		19 1/4	
18	193	211		18	
25	195	213 3/8		18 3/8	
Aug. 1	202	219 1/4		17 1/4	
8	200	217 1/4		17 1/4	
15	200	215 1/2		15 1/2	
22	201 1/2	216 1/8		14 5/8	
29	201	215 7/8		14 7/8	
Sept. 6	201 1/2	216 3/4		15 1/4	
12	201	215 3/8		14 3/8	
19	200	213 3/4		13 3/4	
26	198	212 7/8		14 7/8	
Oct. 3	200	212 7/8	224 1/4	12 7/8	11 3/8
10	201 1/2	213 5/8	225 1/4	12 1/8	11 5/8
17	200 1/2	214 3/8	226	13 7/8	11 5/8
24	199 1/2	216 7/8	229 1/2	17 3/8	12 5/8
31	200 1/2	217 1/4	231	16 3/4	13 3/4
Nov. 7	205	217 1/2	231	26	13 1/2
14	201	213 3/4	226 3/4	25 3/4	13
21	201 1/2		225 1/2	24	
28	203		226	23	
Dec. 5	206		226	20	
12	210		224	14	
19	214		224	10	
27	220		228 3/8	8 3/8	
1961					
Jan. 3	229		242 1/2	13 1/2	
9	232		248 1/2	16 1/2	
16	236		256	20	
23	231 1/2		250	18 1/2	
30	252		271 3/4	19 3/4	
Feb. 6	255 1/2		276	20 1/2	
13	257		277 1/4	20 1/4	
20	262 1/2		281 3/4	19 1/4	
27	290		308	18	
Mar. 6	291		309 1/2	18 1/2	
13	273		288	15	
20	285		292	7	
27	296		303 1/2	7 1/2	
April 3	295		302 3/4	7 3/4	
10	310		323	13	
17	305		320 1/8	15 1/8	
24	313		324 1/2	11 1/2	
May 1	318		327 3/4	9 3/4	
8	297		305 1/2	8 1/2	
15	308		311 3/4	3 3/4	
22	294		297 3/4	3 3/4	
29	288		292 3/4	4 3/4	
June 5	295		298 1/4	3 1/4	
12	263		267 1/2	4 1/2	
19	263		267 1/2	4 1/2	
26	254		261 1/4	7 1/4	
July 3	267		275 3/4	8 3/4	
10	260		262	2	
17	254		254 3/4	0 3/4	

(Table is concluded on next page)

Appendix Table 2. — Concluded

Date	East-central Illinois farm price	Nov.	July	Basis	Difference
		1961 Crop			
1961					
April 4	223	242¼		19¼	
11	228	248		20	
18	230	249½		19½	
25	243	261½		18½	
May 2	240	258½		18½	
9	237½	255¼		17¾	
16	235	253½		18½	
23	233	250¼		17¼	
31	233	250¼		17¼	
June 6	233	250		17	
13	227	245¾		18¾	
20	227	245¼		18¼	
27	229	246¼		17¼	
July 5	234	251		16	
11	233	250¾		17¾	
18	231	248		17	
25	230	250¾		20¾	
Aug. 1	228	244⅞		16⅞	
8	228	244¾		16¾	
15	226	242⅜		16⅜	
22	227	243¼		16¼	
29	227	242⅝		15⅜	
Sept. 6	224	239⅝		15⅝	
13	223	239½		16½	
20	220½	237⅛		16⅝	
27	222	237⅝		15⅝	
Oct. 3	225	238¾	253¼	13¾	14½
10	226½	238⅜	253½	11⅞	15⅛
17	230	239⅝	253¾	9⅝	14⅛
24	231	242⅝	253⅝	11⅝	11
31	233	240⅝	251¾	7⅝	11⅛
Nov. 7	235	242¼	251⅝	16⅝	9⅜
14	235	242½	250½	15½	6
21	236		249⅞	13⅞	
28	236		246½	10½	
Dec. 5	238		247¾	9¾	
12	238		247⅝	9⅝	
19	238		247¾	9¾	
26	239		247½	8½	
1962					
Jan. 2	239½		249¼	9¾	
9	238		249⅝	11⅝	
16	237½		248⅜	11⅜	
23	237		248	11	
30	237½		248¼	10¾	
Feb. 6	238		248¾	10¾	
13	238½		248¾	10¼	
20	235		246⅜	11⅜	
27	235		247	12	
Mar. 6	236		248¼	12¼	
13	240		247¾	7¾	
20	241½		248½	7	
27	243		249	6	
April 3	244		248⅞	4⅞	
10	245		249⅞	4⅞	
17	245		249¼	4¼	
24	246		249⅛	3⅛	
May 2	245½		249	3½	
9	245		248⅝	3⅝	
16	244		248⅛	4⅛	
23	242½		247	4½	
31	242		247⅜	5⅜	
June 5	241½		247½	6	
12	239		247	8	
19	241		250	9	
26	240½		249⅞	9⅜	
July 3	240		249⅜	9⅜	
10	240½		249⅞	9⅜	
17	241		254⅛	13⅛	

Date	East-central Illinois farm price	Nov.	July	Basis	Difference
		Mean 1955-61 Crops			
April 4	207½	227¾		20¼	
11	209⅝	229⅝		20	
18	209⅞	228⅞		19	
25	211⅜	231¼		19⅞	
May 2	211	230⅝		19⅝	
9	210⅞	230⅝		19¾	
16	210⅞	230⅝		19¾	
23	210	229⅝		19⅝	
31	210⅛	229⅜		19¼	
June 6	208⅜	228¼		19⅞	
13	209¼	229⅛		19⅞	
20	209	230⅜		21⅜	
27	209¼	228¾		19½	
July 5	209⅜	228¼		18⅞	
11	209⅝	228⅝		19	
18	212⅞	231⅝		18¾	
25	210⅛	229⅛		19	
Aug. 1	211⅛	229¼		18⅛	
8	210⅜	228⅝		18¼	
15	210	227¾		17¾	
22	208⅞	226½		17⅝	
29	208½	226⅜		17⅞	
Sept. 6	207⅝	225½		17⅞	
13	207	224¾		17¾	
20	206⅛	223⅝		17½	
27	208⅞	227¼		18⅜	
Oct. 3	209⅜	226⅜	236	17	9⅝
10	210½	226⅞	237¼	16⅜	10⅜
17	209⅞	226¾	237⅜	16⅞	10⅝
24	208⅜	226½	237	18⅛	10½
31	211⅛	228¼	238⅞	17⅛	10⅝
Nov. 7	214⅝	229⅞	239⅝	25	9¾
14	215½	229¾	238⅜	22⅞	8⅝
21	216⅝		236⅞	20¼	
28	216⅜		236½	19⅛	
Dec. 5	218⅜		236½	18⅛	
12	219		234½	15½	
19	218⅞		233	14⅛	
26	220⅞		233⅝	12¾	
Jan. 2	222¼		234¾	12½	
9	223⅝		238½	14⅞	
16	225⅜		239⅞	14½	
23	224½		237⅞	13⅜	
30	227⅛		240¼	13⅛	
Feb. 6	227½		240⅞	13⅜	
13	227⅜		240⅞	13½	
20	228⅜		242⅝	14¼	
27	233⅝		247¼	13⅝	
Mar. 6	234⅛		247½	13⅜	
13	232⅝		244½	11⅞	
20	234¼		244⅜	10⅛	
27	237⅞		247⅜	9½	
April 3	239¾		249	9¼	
10	240		253¾	13¾	
17	243⅝		254¼	10⅝	
24	245⅞		255⅜	9¾	
May 2	249½		259	9½	
9	247		255½	8½	
16	247⅞		255¾	7⅞	
23	245		253½	8½	
31	240¾		249½	8¾	
June 5	241⅝		250	8⅜	
12	237¾		246⅜	8⅝	
19	234⅞		243⅜	8½	
26	234⅜		243½	9⅛	
July 3	233		242¾	9¾	
10	231¾		240¼	8½	
17	231⅝		241⅝	10	

Appendix Table 3. — Oats: Weekly Prices, Cash Bid to Farmers at Local Elevators in East-Central Illinois, July and March Futures, Basis, and July-March Spreads, 1955-61 Crop Years

Date	East-central Illinois farm price	July	March	Basis	Difference
		1955 Crop			
1955					
Jan. 3	59	71 5/8		12 5/8	
10	59	71 1/2		12 1/2	
17	59	70 1/8		11 1/8	
24	60	71 1/2		11 1/2	
31	60	71		11	
Feb. 7	59 1/2	70 3/4		11 1/4	
14	58	70 3/4		12 3/4	
21	58	69 5/8		11 5/8	
28	57	68 1/8		11 1/8	
Mar. 7	54	65 5/8		11 5/8	
14	56	67 1/8		11 1/8	
21	54	65 3/4		11 3/4	
28	55 1/2	66 3/8		10 7/8	
April 4	55	65 1/2		10 1/2	
11	55	64 7/8		9 7/8	
18	57	67 5/8		10 5/8	
25	57	67 3/4		10 3/4	
May 2	56	66 5/8		10 5/8	
9	57	67 7/8		10 7/8	
16	57	67 3/8		10 3/8	
23	59	69 7/8		10 7/8	
31	58 1/2	68 3/8		9 7/8	
June 6	56	65 5/8	69 3/4	9 5/8	3 3/4
13	56	67 1/8	70 5/8	11 1/8	3 1/2
20	55	65 5/8	69 1/2	10 5/8	3 7/8
27	56	65 1/4	69 1/4	9 1/4	4
July 5	53 1/2	64	68 1/2	15	4 1/2
11	53 1/2	63 3/8	68 3/8	14 7/8	5
18	50 1/2	60 1/4	66	15 1/2	5 3/4
25	49 1/2		63 3/4	14 1/4	
Aug. 1	50 1/2		64 7/8	14 3/8	
8	48		63 1/4	15 1/4	
15	48		64	16	
22	47		64	17	
29	46		63 5/8	17 5/8	
Sept. 6	48		64 1/4	16 1/4	
12	49		64 3/4	15 3/4	
19	51		66 3/4	15 3/4	
26	53		68	15	
Oct. 3	53 1/2		66 3/4	13 1/4	
10	56 1/2		67 1/8	10 5/8	
17	55 1/2		65 7/8	10 3/8	
24	55 1/2		65 1/2	10	
31	57		67 3/8	10 3/8	
Nov. 7	58		68 3/4	10 3/4	
14	57		67 3/8	10 3/8	
21	58 1/2		67 3/4	9 1/4	
28	58		65 5/8	7 5/8	
Dec. 5	59 1/2		64 1/2	5	
12	59 1/2		63 1/4	3 3/4	
19	59 1/2		64 3/8	4 7/8	
27	60		65 1/4	5 1/4	
1956					
Jan. 3	59 1/2		66	6 1/2	
9	60		66 3/4	6 3/4	
16	57		64 3/8	7 3/8	
23	57		64 3/8	7 3/8	
30	57		64 7/8	7 7/8	
Feb. 6	58		65	7	
13	57 1/2		63	5 1/2	
20	57		63 1/4	6 1/4	
27	56 1/2		62 1/4	5 3/4	
Mar. 5	55		60 1/2	5 1/2	
12	56		61 7/8	5 7/8	
19	56 1/2		61 7/8	5 3/8	

Date	East-central Illinois farm price	July	March	Basis	Difference
		1956 Crop			
1956					
Jan. 3	50	63 3/4		13 3/4	
10	51	64 5/8		13 5/8	
17	50	63 1/8		13 1/8	
24	50	63 7/8		13 7/8	
31	51	64 1/2		13 1/2	
Feb. 7	51	63 3/4		12 3/4	
14	50	63		13	
21	52	64		12	
28	51	62 3/8		11 3/8	
Mar. 7	51	63 3/4		12 3/4	
14	48	62 7/8		14 7/8	
21	51	64 1/4		13 1/4	
28	53	65 1/8		12 1/8	
April 4	54	66 3/8		12 3/8	
11	55	66 3/8		11 3/8	
18	54	66 5/8		12 5/8	
25	57	68 1/2		11 1/2	
May 2	55	66 7/8		11 7/8	
9	56	67 1/2		11 1/2	
16	56	67 1/8		11 1/8	
23	55	66			
31	54	65 3/4		11 3/4	
June 6	54	64 7/8	71	10 7/8	6 1/8
13	57	67 3/4	74	10 3/4	6 1/4
20	56 1/2	66 1/8	72 3/4	9 5/8	6 5/8
27	56 1/2	66 1/4	72 5/8	9 3/4	6 3/8
July 5	58 1/2	68 1/8	75 1/8	16 5/8	7
11	63	71 3/4	77 3/4	14 3/4	6
18	65	75 1/4	76 7/8	11 7/8	1 5/8
25	63 1/2		75 5/8	12 1/8	
Aug. 1	65 1/2		77 1/4	11 3/4	
8	64		77 1/8	13 1/8	
15	65		78 1/2	13 1/2	
22	61		77 5/8	16 5/8	
29	60		77 1/2	17 1/2	
Sept. 6	61 1/2		78 1/4	16 3/4	
12	62 1/2		78	15 1/2	
19	62 1/2		78 1/2	16	
26	63		78 1/4	15 1/4	
Oct. 3	63 1/2		78 1/4	14 3/4	
10	65 1/2		78	12 1/2	
17	70		80 1/4	10 1/8	
24	72		81 1/4	9 1/4	
31	72		82 1/8	10 1/8	
Nov. 7	72		80 3/4	8 3/4	
14	71 1/2		80 1/4	8 3/4	
21	74 1/2		79 3/4	5 1/4	
28	75		80 1/8	5 1/8	
Dec. 5	72		78	6	
12	73		77 3/8	4 3/8	
19	74		78 1/8	4 1/8	
26	73 1/2		78	4 1/2	
1957					
Jan. 2	73		77 3/4	4 3/4	
9	73		78 1/8	5 1/8	
16	73 1/2		79 5/8	6 1/8	
23	73		79 1/8	6 1/8	
30	72		78 3/4	6 3/4	
Feb. 6	67		75 1/4	8 1/4	
13	68		75 3/4	7 3/4	
20	68		76	8	
27	67		74 3/8	7 3/8	
Mar. 5	69		75 1/4	6 1/4	
12	69		75 1/4	6 1/4	
19	64		72	8	

(Table is continued on next page)

Appendix Table 3. — Continued

Date	East-central Illinois farm price	July	March	Basis	Difference
		1957 Crop			
1957					
Jan. 3	56	70		14	
10	56	70 1/8		14 1/8	
17	57 1/2	71 3/4		14 1/4	
24	57	71 1/4		14 1/4	
31	55 1/2	69 1/2		14	
Feb. 7	57	67 5/8		10 5/8	
14	57	67 1/4		10 1/4	
21	56	67 3/4		11 3/4	
28	56	66 7/8		10 7/8	
Mar. 7	57	66 1/2		9 1/2	
14	55	65 1/2		10 1/2	
21	53	64 1/2		11 1/2	
28	55	65 3/4		10 3/4	
April 4	53	65 1/4		12 1/4	
11	57	67 5/8		10 5/8	
18	57	67 1/4		10 1/4	
25	57	66 7/8		9 7/8	
May 2	55	66		11	
9	56	67 1/2		11 1/2	
16	56	67		11	
23	56	66 7/8		10 7/8	
31	55 1/2	65 1/2		10	
June 6	53	62 3/4	69 1/4	9 3/4	6 1/2
13	53 1/2	64 1/4	70 1/8	10 3/4	5 7/8
20	54 1/2	64 5/8	70 5/8	10 1/8	6
27	58	67 1/8	72 1/4	9 1/8	5 1/8
July 5	58	67 1/4	73 1/8	15 1/8	5 7/8
11	58	67 1/2	73 1/4	15 1/4	5 3/4
18	58 1/2	68	71 5/8	13 1/8	3 5/8
25	58		71 5/8	13 5/8	
Aug. 1	57		70 5/8	13 5/8	
8	57		69 3/8	12 3/8	
15	58		70 1/8	12 1/8	
22	59		71 1/2	12 1/2	
29	60		70 3/4	10 3/4	
Sept. 5	60		71 1/2	11 1/2	
12	59		71 1/8	12 1/8	
19	58		70 5/8	12 5/8	
26	55		68	13	
Oct. 3	59		69 1/4	10 1/4	
10	59		69	10	
17	61		69 1/2	8 1/2	
24	61		68 1/4	7 1/4	
31	61		67 1/4	6 1/4	
Nov. 7	62		68 1/4	6 1/4	
14	63		67 1/2	4 1/2	
21	64		67	3	
29	64		66 7/8	2 7/8	
Dec. 5	64		67	3	
12	64		65 7/8	1 7/8	
19	64		65 3/4	1 3/4	
26	63		63 5/8	0 5/8	
1958					
Jan. 2	62		63 3/8	1 5/8	
9	63		65	2	
16	63		65	2	
23	60 1/2		62 1/2	2	
30	57 1/2		62 5/8	5 1/8	
Feb. 6	58		64 1/4	6 1/4	
13	58 1/2		65	6 1/2	
20	59		65 1/4	6 1/4	
27	57 1/2		63 5/8	6 1/8	
Mar. 6	59		65 5/8	6 5/8	
13	59 1/2		67	7 1/2	
20	59 1/2		67 1/8	7 5/8	

Date	East-central Illinois farm price	July	March	Basis	Difference
		1958 Crop			
1958					
Jan. 3	43	58 1/4		15 1/4	
10	43	57 3/4		14 3/4	
17	42	57 1/8		15 1/8	
24	43	57 1/8		14 1/8	
31	43	57 1/2		14 1/2	
Feb. 7	45	58 3/4		13 3/4	
14	46	59		13	
21	47	60 1/4		13 1/4	
28	47	61		14	
Mar. 7	48	62 3/8		14 3/8	
14	48	62		14	
21	49	61 3/4		12 3/4	
28	49	62 1/2		13 1/2	
April 3	49	62 3/8		13 3/8	
11	50	62 3/4		12 3/4	
18	49	61 1/2		12 1/2	
25	47	60 1/8		13 1/8	
May 2	47	59 7/8		12 7/8	
9	46 1/2	60 1/4		13 3/4	
16	47	60		13	
23	49	60 1/4		11 1/4	
29	50	62 1/4		12 1/4	
June 6	50	62	68 1/4	12	6 1/4
13	50	61 5/8	68 1/8	11 5/8	6 1/2
20	52	63 3/8	68 7/8	11 3/8	5 1/2
27	53	63 3/4	69 3/4	10 3/4	6
July 3	53 1/2	64 1/8	70 3/4	17 1/4	6 5/8
11	53	65	70 1/8	17 1/8	5 1/8
18	54 1/2	65 1/2	71 7/8	17 3/8	6 3/8
25	53 1/2		68	14 1/2	
Aug. 1	55		68 5/8	13 5/8	
8	54		68 7/8	14 7/8	
15	53		66 5/8	13 5/8	
22	51		66 1/2	15 1/2	
29	52		68	16	
Sept. 5	51		67 3/4	16 3/4	
12	50		67 3/8	17 3/8	
19	50		67 1/8	17 1/8	
26	50		66 7/8	16 7/8	
Oct. 3	50		66	16	
10	50		66	16	
17	50		66	16	
24	50		65 3/8	15 3/8	
31	50		65 7/8	15 7/8	
Nov. 7	51 1/2		67	15 1/2	
14	53		67 1/4	14 1/4	
21	54		67 3/8	13 3/8	
28	53		65 3/4	12 3/4	
Dec. 5	57		66 1/2	9 1/2	
12	58		66 1/2	8 1/2	
19	58		63 7/8	5 7/8	
24	59		65	6	
1959					
Jan. 2	57		65 1/2	8 1/2	
9	58		66 1/4	8 1/4	
16	57		66 7/8	9 7/8	
23	57		67 7/8	10 7/8	
30	58		66	8	
Feb. 6	58		66 5/8	8 5/8	
13	57		66	9	
20	54		64 3/4	10 3/4	
27	54 1/2		65 7/8	11 3/8	
Mar. 6	54		64 3/8	10 3/8	
13	54		65 3/4	11 3/4	
19	55		64 3/4	9 3/4	

(Table is continued on next page)

Appendix Table 3. — Continued

Date	East-central Illinois farm price	July	March	Basis	Difference
		1959 Crop			
1959					
Jan. 2	47	61 1/8		14 1/8	
9	47	61 1/4		14 1/4	
16	47	61		14	
23	50	62 1/8		12 1/8	
30	49 1/2	61 3/4		11 3/4	
Feb. 6	50	61 3/4		11 3/4	
13	50	61 7/8		11 7/8	
20	49	60 3/8		11 3/8	
27	50	62 5/8		12 5/8	
Mar. 6	53	62 3/4		9 3/4	
13	52	62 7/8		10 7/8	
20	53	64 1/8		11 1/8	
26	54	65 1/8		11 1/8	
April 3	53	65		12	
10	56	67		11	
17	53 1/2	64 1/4		10 3/4	
24	53	63 5/8		10 5/8	
May 1	54	65		11	
8	54 1/2	64 3/8		9 7/8	
15	54	65 3/8		11 3/8	
22	54	63 1/2		9 1/2	
29	52	63		11	
June 5	52	63 3/4	67 5/8	11 3/4	3 7/8
12	54	66	70	12	4
19	55	66 3/8	71 3/8	11 3/8	5
26	56	66 5/8	72	10 5/8	5 3/8
July 2	56	67	71 1/2	15 1/2	4 1/2
10	58	66 5/8	70 3/8	12 3/8	3 3/4
17	62	67 3/4	70	8	2 1/4
24	63		70	7	
31	63 1/2		71 3/4	8 1/4	
Aug. 7	62		71 3/4	9 3/4	
14	61		71	10	
21	59		70	11	
28	60		70 7/8	10 7/8	
Sept. 4	63		71 1/2	8 1/2	
11	60		71 7/8	11 7/8	
18	57		70 3/4	13 3/4	
25	58		71 1/4	13 1/4	
Oct. 2	59		71 3/4	12 3/4	
9	62		72 1/4	10 1/4	
16	62		73 1/8	11 1/8	
23	63		74	11	
30	69		75 3/4	6 3/4	
Nov. 6	69		76 1/4	7 1/4	
13	69		78	9	
20	69		75 5/8	6 5/8	
27	70		75 3/4	5 3/4	
Dec. 4	71		76 7/8	5 7/8	
11	71		76	5	
18	71		74 3/4	3 3/4	
24	72		75 1/2	3 1/2	
31	72		75 1/2	3 1/2	
1960					
Jan. 8	72		76 1/8	4 1/8	
15	72		77 1/4	5 1/4	
22	72		76	4	
29	68		75 3/8	7 3/8	
Feb. 5	68		75	7	
12	68		74 3/4	6 3/4	
19	68		73 1/2	5 1/2	
26	66		73 1/2	7 1/2	
Mar. 4	69		75 1/4	6 1/4	
11	67		75 1/2	8 1/2	
18	70		75	5	

Date	East-central Illinois farm price	July	March	Basis	Difference
		1960 Crop			
1960					
Jan. 4	55	66		11	
11	56	67		11	
18	56	67 1/4		11 1/4	
25	56	67 1/4		11 1/4	
Feb. 1	55 1/2	66 1/2		11	
8	56	66 3/4		10 3/4	
15	56	57		11	
23	55 1/2	66 5/8		11 1/8	
29	55 1/2	66 1/2		11	
Mar. 7	57	68 3/8		11 3/8	
14	59 1/2	70 7/8		11 3/8	
21	60	71 1/4		11 1/4	
28	60	71 3/4		11 3/4	
April 4	61 1/2	72 3/4		11 1/4	
11	61	71 7/8		10 7/8	
18	61	72 1/8		11 1/8	
25	61 1/2	72 5/8		11 1/8	
May 2	62	73 3/8		11 3/8	
9	63	74		11	
16	58 1/2	73 5/8		15 1/8	
23	60	72 1/2		12 1/2	
31	60	72 3/4		12 3/4	
June 6	57 1/2	70 1/4	75 1/2	12 3/4	5 1/4
13	62	70 1/2	76	8 1/2	5 1/2
20	62	70 1/4	75 7/8	8 1/4	5 5/8
27	60	70 3/8	75 7/8	10 3/8	5 1/2
July 5	61	71 1/8	76 3/8	15 3/8	5 1/4
11	61	70 1/8	74 1/2	13 1/2	4 3/8
18	60	67 3/4	73 3/4	13 3/4	6
25	58		73 1/8	15 1/8	
Aug. 1	58 1/2		74 3/8	15 7/8	
8	56		73 7/8	17 7/8	
15	57		72 1/4	15 1/4	
22	57		73 1/2	16 1/2	
29	57		73 5/8	16 5/8	
Sept. 6	55		73 1/8	18 1/8	
12	53		72 5/8	19 5/8	
19	53		71 7/8	18 7/8	
26	53		69 1/4	16 1/4	
Oct. 3	53		70 7/8	17 7/8	
10	54		70 1/4	16 1/4	
17	54		68 3/4	14 3/4	
24	54		68 1/2	14 1/2	
31	52		67 1/8	15 1/8	
Nov. 7	53		67 1/4	14 1/4	
14	51		62 1/4	11 1/4	
21	51		62 5/8	11 5/8	
28	51		63 5/8	12 5/8	
Dec. 5	51		63	12	
12	55		64 1/2	9 1/2	
19	55		64 5/8	9 5/8	
27	56 1/2		64 1/8	7 5/8	
1961					
Jan. 3	57 1/2		65 1/2	8	
9	58		67 1/4	9 1/4	
16	60		65 1/2	5 1/2	
23	58		65 1/4	7 1/4	
30	59		67 1/2	8 1/2	
Feb. 6	59		67 5/8	8 5/8	
13	58 1/2		65 1/4	6 3/4	
20	56 1/2		63	6 1/2	
27	56 1/2		63	6 1/2	
Mar. 6	55		63 1/4	8 1/4	
13	56 1/2		64 1/8	7 5/8	
20	54		60 1/2	6 1/2	

(Table is concluded on next page)

Appendix Table 3. — Concluded

Date	East-central Illinois farm price	July	March	Basis	Difference
		1961 Crop			
1961					
Jan. 3	53	67 7/8		14 7/8	
10	52	67 1/4		15 1/4	
17	52	67 1/8		15 1/8	
24	52	66 7/8		14 7/8	
31	54	69 3/4		15 3/4	
Feb. 7	55	70 1/2		15 1/2	
14	54	69 1/4		15 1/4	
21	53	67 3/4		14 3/4	
28	53	67 3/4		14 3/4	
Mar. 7	50	67 1/8		17 1/8	
14	50	68 1/2		18 1/2	
21	50	65 3/4		15 3/4	
28	47	62		15	
April 4	50	63 3/4		13 3/4	
11	49	63		14	
18	51	63 3/8		12 3/8	
25	53	66		13	
May 2	53	66 1/4		13 1/4	
9	54	66 3/8		12 3/8	
16	54	67 1/4		13 1/4	
23	54	65 7/8		11 7/8	
31	55	67 1/2		12 1/2	
June 6	55	66 7/8	75	11 7/8	8 1/8
13	54	65 5/8	74 1/4	11 5/8	8 5/8
20	55	66 3/8	74 1/4	11 3/8	7 7/8
27	57	69 1/2	76 1/8	12 1/2	6 5/8
July 5	58	71	77 1/4	19 1/4	6 1/4
11	62	73 1/4	78 1/8	16 7/8	5 5/8
18	62	73 1/2	77 3/4	15 3/4	4 1/4
25	61		77 1/4	16 1/4	
Aug. 1	58		75 3/4	17 3/4	
8	56		75 1/4	19 1/4	
15	58		78 1/2	20 1/2	
22	58 1/2		78 3/8	19 7/8	
29	58		77 1/2	19 1/2	
Sept. 6	57		78 3/8	21 3/8	
13	58		78 7/8	20 7/8	
20	56		75 3/4	19 3/4	
27	54		74 5/8	20 5/8	
Oct. 3	53		72 3/4	19 3/4	
10	53		72 1/4	19 1/4	
17	55		73 1/8	18 1/8	
24	55		72 3/4	17 3/4	
31	55		70 1/4	15 1/4	
Nov. 7	57		71 3/4	14 3/4	
14	60		71 5/8	11 5/8	
21	60		71 1/8	11 1/8	
28	61		71	10	
Dec. 5	61		70 1/2	9 1/2	
12	63		72 1/4	9 1/4	
19	63		71 7/8	8 7/8	
26	63		71 5/8	8 5/8	
1962					
Jan. 2	64		72 3/8	8 3/8	
9	62		73 1/2	11 1/2	
16	62		71	9	
23	57		67 3/4	10 3/4	
30	57		68	11	
Feb. 6	57		67 7/8	10 7/8	
13	55		65 1/4	10 1/4	
20	53		62 3/8	9 3/8	
27	55		63	8	
Mar. 6	57		65 1/8	8 1/8	
13	57		64 7/8	7 7/8	
20	58		67 3/4	9 3/4	

Date	East-central Illinois farm price	July	March	Basis	Difference
		Mean 1955-61 Crops			
Jan. 3	52 7/8	65 1/2		12 5/8	
10	52	65 5/8		13 5/8	
17	51 7/8	65 3/8		13 1/2	
24	52 1/2	65 3/4		13 1/4	
31	52 5/8	65 5/8		13	
Feb. 7	53 3/8	65 5/8		12 1/4	
14	53	65 1/2		12 1/2	
21	52 7/8	65 1/8		12 1/4	
28	52 3/4	65 1/8		12 3/8	
Mar. 7	52 7/8	65 1/4		13 3/8	
14	52 5/8	65 3/4		13 1/8	
21	52 7/8	65 3/8		12 1/2	
28	53 3/8	65 1/2		12 1/8	
April 4	53 5/8	65 7/8		12 1/4	
11	54 5/8	66 1/4		11 5/8	
18	54 5/8	66		11 3/8	
25	55	66 1/2		11 1/2	
May 2	54 1/2	66 1/4		11 5/8	
9	55 1/4	66 3/4		11 1/2	
16	54 3/4	66 7/8		12 1/8	
23	55 1/4	66 3/8		11 1/8	
31	55	66 3/8		11 3/8	
June 6	53 7/8	65 1/8	70 7/8	11 1/4	5 3/4
13	55 1/8	66 1/8	71 7/8	11	5 3/4
20	55 3/4	66 1/8	71 7/8	10 3/8	5 3/4
27	56 5/8	67	72 5/8	10 3/8	5 5/8
July 5	56 7/8	67 5/8	73 1/4	16 3/8	5 5/8
11	58 3/8	68 1/4	73 1/4	14 5/8	5
18	58 7/8	68 1/4	72 1/2	13 5/8	4 1/4
25	58 1/8		71 3/8	13 1/4	
Aug. 1	58 3/8		71 7/8	13 1/2	
8	56 3/4		71 3/8	14 5/8	
15	57 1/8		71 1/2	14 3/8	
22	56		71 5/8	15 5/8	
29	56 1/8		71 3/4	15 5/8	
Sept. 6	56 1/2		72	15 1/2	
13	56		72	16	
20	55 3/8		71 5/8	16 1/4	
27	55 1/8		70 7/8	15 3/4	
Oct. 3	55 7/8		70 7/8	15	
10	57 1/8		70 5/8	13 1/2	
17	58 1/4		71	12 3/4	
24	58 5/8		70 7/8	12 1/4	
31	59 3/8		70 3/4	11 3/8	
Nov. 7	60 3/8		71 3/8	11	
14	60 5/8		70 1/2	9 7/8	
21	61 5/8		70 1/8	8 1/2	
28	61 3/4		69 7/8	8 1/8	
Dec. 5	62 1/3		69 3/8	7 1/4	
12	63 3/8		69 3/8	6	
19	63 1/2		69 1/8	5 5/8	
26	63 7/8		69	5 1/8	
Jan. 2	63 5/8		69 1/2	5 7/8	
9	63 5/8		70 3/8	6 3/4	
16	63 1/2		69 7/8	6 5/8	
23	62		68 7/8	6 7/8	
30	61 1/8		69	7 7/8	
Feb. 6	60 3/4		68 7/8	8 1/8	
13	60 3/8		67 7/8	7 1/2	
20	59 3/8		66 7/8	7 1/2	
27	59		66 1/2	7 1/2	
Mar. 6	59 5/8		67	7 3/8	
13	59 7/8		67 3/4	7 7/8	
20	59 5/8		67	7 3/8	

Appendix Table 4. — Wheat: Weekly Prices, Cash Bid to Farmers at Local Elevators in East-Central Illinois, July and March Futures, Basis, and July-March Spreads, 1955-61 Crop Years

Date	East-central Illinois farm price	July	March	Basis	Difference
		1955 Crop			
1955					
Jan. 3	197	215		16	
10	190½	213⅜		22⅞	
17	189	210½		21½	
24	194	213¼		19¼	
31	194	213		19	
Feb. 7	192	212¼		20¼	
14	192	211½		19½	
21	185	204¾		19¾	
28	183	201⅞		18⅞	
Mar. 7	180	197		17	
14	184	201⅞		17⅞	
21	181	197⅞		16⅞	
28	181	198		17	
April 4	180	196⅛		16⅛	
11	177	194⅜		17⅜	
18	176	194½		18½	
25	178	195⅞		17⅞	
May 2	177	194½		17½	
9	184	201		17	
16	185½	199⅜	204½	13⅞	5⅛
23	188	201	204¾	13	3¾
31	187	199⅝	201⅞	12⅝	2¼
June 6	185	196⅞	200¼	11⅞	3⅜
13	188	201	202½	13	1½
20	186	197	198⅝	11	1⅝
27	186½	199¾	202⅜	13¼	2⅝
July 5	185½	198½	203⅜	13	4⅞
11	188	203¼	207⅛	19⅛	3⅞
18	186	199⅞	204½	18½	4⅝
25	183		202⅛	19⅛	
Aug. 1	178½		200⅛	21⅝	
8	176		197¼	21¼	
15	176		196	20	
22	176		196	20	
29	173		195¼	22¼	
Sept. 6	173		200⅜	27⅜	
12	177		202⅜	25⅜	
19	178		202⅜	24⅜	
26	182		206⅝	24⅝	
Oct. 3	183		205⅝	22⅝	
10	186		206½	20½	
17	183		204	21	
24	183		200⅜	17⅜	
31	183		206¼	23¼	
Nov. 7	183		207⅛	24⅛	
14	180		205¾	25¾	
21	182½		205¾	23¼	
28	181		203⅞	22⅞	
Dec. 5	190		205¾	15¾	
12	191		209½	18½	
19	192		209¼	17¼	
27	190		209	19	
1956					
Jan. 3	198½		212⅛	13⅝	
9	199		210⅝	11⅝	
16	196		210½	14½	
23	197		206⅝	9⅝	
30	198		207½	9½	
Feb. 6	200		214½	14½	
13	203		216⅜	13⅜	
20	209		220⅛	11⅛	
27	209		219⅞	10⅞	
Mar. 5	207		220¼	13¼	
12	209		223⅜	14⅜	
19	210		226⅛	16⅛	

Date	East-central Illinois farm price	July	March	Basis	Difference
		1956 Crop			
1956					
Jan. 3	175	198⅞		23⅞	
10	176	198⅞		22⅞	
17	170½	196½		26	
24	172	195½		23½	
31	173	197⅝		24⅝	
Feb. 7	172½	197⅛		24⅝	
14	176	196½		20½	
21	180	199⅝		19⅝	
28	180	199¾		19¾	
Mar. 7	179	198⅝		19⅝	
14	175	198¾		23¾	
21	179	200½		21½	
28	189	208¼		19¼	
April 4	189	211⅞		22⅞	
11	193	212⅛		19⅛	
18	189	209⅛		20⅛	
25	191	214¼		23¼	
May 2	193	209¼		16¼	
9	188	205⅛		17⅛	
16	189	208⅞	213¾	19⅞	4⅞
23	189	205⅝	209⅞	17⅝	4¼
31	185	203¼	209⅛	18¼	5⅞
June 6	189	206⅛	212¾	17⅛	5⅞
13	190½	208⅜	215¾	17⅞	7⅜
20	189½	208⅜	215¾	18⅞	7⅜
27	186½	206⅛	214	19⅝	7⅞
July 5	185½	206½	214½	29	8
11	185½	205⅛	214½	28⅝	9
18	193½	214½	221⅞	28⅜	7⅜
25	193		221½	28½	
Aug. 1	192½		223⅜	30⅞	
8	192		224	32	
15	197		228⅛	31⅛	
22	197		228¼	31¼	
29	198		229½	31½	
Sept. 6	203½		231¼	27¾	
12	207		231⅞	24⅞	
19	207		233⅝	26⅝	
26	207		234¼	27¼	
Oct. 3	204		233½	29½	
10	204½		233¼	28¾	
17	208		236	28	
24	209		237⅞	28⅞	
31	214		242¾	28¾	
Nov. 7	212		240⅛	28⅛	
14	218		242½	24½	
21	220		241	21	
28	228½		242¾	14¼	
Dec. 5	223½		238¼	14¾	
12	226½		239½	13	
19	225½		239¾	14¼	
26	225		241	16	
1957					
Jan. 2	225		241¾	16¾	
9	223		240⅞	17½	
16	227		243¼	16¼	
23	225		241½	16½	
30	221		237¼	16¼	
Feb. 6	215		231⅜	16⅜	
13	213		231½	18½	
20	214½		232¼	17¾	
27	214		231⅞	17⅞	
Mar. 5	215½		233¾	18¼	
12	215½		231	15½	
19	206½		220½	14	

(Table is continued on next page)

Appendix Table 4. — Continued

Date	East-central Illinois farm price	July	March	Basis	Difference
		1957 Crop			
1957					
Jan. 3	207	229 5/8		22 5/8	
10	207	228 1/8		21 1/8	
17	210	231 1/2		21 1/2	
24	207	228 3/4		21 3/4	
31	203	224 1/4		21 1/4	
Feb. 7	201 1/2	222 7/8		21 3/8	
14	203 1/2	224 5/8		21 1/8	
21	202	224 3/8		22 3/8	
28	203 1/2	224 1/2		21	
Mar. 7	202	223 3/4		21 3/4	
14	201	222 1/4		21 1/4	
21	196	217 1/4		21 1/4	
28	195	216 1/8		21 1/8	
April 4	193	213 3/4		20 3/4	
11	196	215 3/4		19 3/4	
18	193	214		21	
25	190	210 7/8		20 7/8	
May 2	187	207 7/8		20 7/8	
9	187 1/2	208 1/8		20 5/8	
16	189	209 1/4	216 7/8	20 1/4	7 5/8
23	185	205 3/4	215	20 3/4	9 1/4
31	182 1/2	203 1/4	212 1/2	20 3/4	9 1/4
June 6	181	202 5/8	210 7/8	21 5/8	8 1/2
13	181	202 1/2	211 1/4	21 1/2	8 3/4
20	184 1/2	205 3/8	214 3/4	20 7/8	9 3/8
27	196	214	222 1/4	18	8 1/4
July 5	192	209 1/2	219 1/4	27 1/4	9 3/4
11	193 1/2	212 3/4	221 1/4	27 3/4	8 1/2
18	196	215 5/8	221 3/4	25 3/4	6 1/8
25	190		219 1/8	29 1/8	
Aug. 1	195		221 1/2	26 1/2	
8	195		223 3/8	28 3/8	
15	197		226 5/8	29 5/8	
22	198		227 3/8	29 3/8	
29	192 1/2		225	32 1/2	
Sept. 5	198		227	29	
12	194 1/2		224 3/4	29 7/8	
19	192		221 1/8	29 1/8	
26	188		220 5/8	32 5/8	
Oct. 3	189		220 3/8	31 3/8	
10	193		223 5/8	30 5/8	
17	194		225 7/8	31 7/8	
24	190		221 1/4	31 1/4	
31	191		222 7/8	31 7/8	
Nov. 7	199		224 1/8	25 1/8	
14	194		224 1/8	30 1/8	
21	194		223 1/4	29 1/4	
29	195		224 1/4	29 1/4	
Dec. 5	201 1/2		224 1/8	22 5/8	
12	203 1/2		222 3/4	19 1/4	
19	200		219 1/4	19 1/4	
26	204 1/2		220 7/8	16 3/8	
1958					
Jan. 2	203 1/2		219 5/8	16 1/8	
9	206 1/2		220 3/4	14 1/4	
16	205 1/2		218	12 1/2	
23	205 1/2		217 3/4	12 1/4	
30	205 1/2		217 3/4	12 1/4	
Feb. 6	203 1/2		216 3/8	12 7/8	
13	202		214 5/8	12 5/8	
20	205 1/2		218 3/4	13 1/4	
27	206		220 1/2	14 1/2	
Mar. 6	206		222 3/4	16 3/4	
13	208		226 1/2	18 1/2	
20	204		222 5/4	18 3/4	

Date	East-central Illinois farm price	July	March	Basis	Difference
		1958 Crop			
1958					
Jan. 3	166	189 1/4		23 1/4	
10	165	188 1/2		23 1/2	
17	166	188		22	
24	162	186		24	
31	164	187 1/2		23 1/2	
Feb. 7	164	187 1/2		23 1/2	
14	167	191 1/2		24 1/2	
21	169	194 7/8		25 7/8	
28	169	193 1/4		24 1/4	
Mar. 7	172	196		24	
14	169	192		23	
21	169	190 7/8		21 7/8	
28	168	190 3/4		22 3/4	
April 3	165	188 3/8		23 3/8	
11	166 1/2	190 5/8		24 1/8	
18	166 1/2	189 3/4		23 1/4	
25	163	186 1/8		23 1/8	
May 2	164	186 5/8		22 5/8	
9	162	184 3/4		22 3/4	
16	161	184	196	23	12
23	164	185 3/8	197 3/4	21 3/8	12 3/8
29	165	186 3/8	198 7/8	21 3/8	12 1/2
June 6	163	183 1/4	194 3/8	20 1/4	11 3/8
13	165 1/2	186 1/2	197	21	10 1/2
20	164	184 7/8	194 5/8	20 7/8	9 3/4
27	164	185 1/4	196 1/2	21 1/4	11 1/4
July 3	159	181 1/4	193 3/4	34 3/4	12 1/2
11	166	185 3/4	196 3/8	30 3/8	10 5/8
18	170 1/2	190 3/8	201 7/8	31 3/8	11 1/2
25	165		195 1/8	30 1/8	
Aug. 1	165		195 1/2	30 1/2	
8	164		195 1/4	31 1/4	
15	163		195 1/2	32 1/2	
22	163		193 1/2	30 1/2	
29	168		197 1/2	29 1/2	
Sept. 5	168		196 3/4	28 3/4	
12	169		197 3/8	28 3/8	
19	169		196 5/8	27 5/8	
26	174		199 3/4	25 3/4	
Oct. 3	172		199 1/8	27 1/8	
10	172		200 7/8	28 7/8	
17	172		200 1/8	28 1/8	
24	171		197 1/2	26 1/2	
31	172		197 7/8	25 7/8	
Nov. 7	172		199 5/8	27 5/8	
14	176		199 3/4	23 3/4	
21	176		199 1/2	23 1/2	
28	175		198 1/2	23 1/2	
Dec. 5	176		198 1/2	22 1/2	
12	176		196 7/8	20 7/8	
19	179		196 5/8	17 5/8	
24	176		194 7/8	18 7/8	
1959					
Jan. 2	179		196 3/4	17 3/4	
9	180		197 1/2	17 1/2	
16	181		196	15	
23	183		197 5/8	14 5/8	
30	183 1/2		197 5/8	14 1/8	
Feb. 6	183 1/2		196 1/8	12 5/8	
13	184		198 1/2	14 1/2	
20	181 1/2		197 3/4	16 1/4	
27	187		203	16	
Mar. 6	186		206 1/4	20 1/4	
13	187 1/2		208	21 1/2	
19	185		208 3/4	23 3/4	

(Table is continued on next page)

Appendix Table 4. — Continued

Date	East-central Illinois farm price	July	March	Basis	Difference
		1959 Crop			
1959					
Jan. 2	152½	181¾		29¼	
9	158½	182		23½	
16	160	182		22	
23	160	183¼		23¼	
30	160	183½		23½	
Feb. 6	161	183⅞		22⅞	
13	162	184⅝		22⅝	
20	162	185		23	
27	165	188¼		23¼	
Mar. 6	164	187⅛		23⅛	
13	165	187½		22½	
20	164	186½		22½	
26	164	185½		21½	
April 3	166	187⅞		21⅞	
10	168	189⅞		21⅞	
17	167	187⅞		20⅞	
24	167	188⅛		21⅛	
May 1	167	187¾		20¾	
8	165	185¾		20¾	
15	166	187	197¾	21	10¾
22	164	183⅝	195¼	19⅝	11⅝
29	163½	183⅞	195¼	20⅜	11⅜
June 5	162	183	195½	21	12½
12	163½	184⅜	197⅛	20⅞	12¾
19	168	186⅛	199	18⅛	12⅞
26	174	186½	199	12½	12½
July 2	179	187¼	199⅞	20⅞	12⅝
10	181½	186¾	198½	17	11¾
17	182	186⅛	197⅛	15⅛	11
24	183		197½	14½	
31	184		199¼	15¼	
Aug. 7	184		199	15	
14	185		199	14	
21	185		199	14	
28	187		200½	13½	
Sept. 4	189		201⅞	12⅞	
11	188		200⅞	12⅞	
18	188		200¼	12¼	
25	188		199	11	
Oct. 2	190½		200¾	10¼	
9	191		200¾	9¾	
16	193		202	9	
23	195		204¾	9¾	
30	194		204¼	10¼	
Nov. 6	196		203¾	7¾	
13	198		206⅜	8⅜	
20	196		203⅛	7⅛	
27	194		203⅜	9⅜	
Dec. 4	192		203⅛	11⅛	
11	191		201⅜	10⅜	
18	192		201⅛	9⅛	
24	194		203¼	9¼	
31	196		204⅜	8⅜	
1960					
Jan. 8	197		204⅛	7⅛	
15	196		202⅝	6⅝	
22	195		202⅜	7⅜	
29	195½		200¾	5¼	
Feb. 5	194		198¾	4¾	
12	198		200¼	2¼	
19	194		199⅞	5⅞	
26	197		197¼	0¼	
Mar. 4	198		198¾	0¾	
11	199		199½	0½	
18	201		203	2	

Date	East-central Illinois farm price	July	March	Basis	Difference
		1960 Crop			
1960					
Jan. 4	162	182⅞		20⅞	
11	165½	183¾		18¼	
18	163	183⅞		20⅞	
25	164	185		21	
Feb. 1	162	184½		22½	
8	162	184⅞		22⅞	
15	164	185⅜		21⅜	
23	164	185		21	
29	164	184⅛		20⅛	
Mar. 7	166	184⅛		18⅛	
14	166	184½		18½	
21	169	183¾		14¾	
28	169	183⅞		14⅞	
April 4	169	185⅛		16⅛	
11	170	184⅜		14⅜	
18	169	184¼		15¼	
25	170	184		14	
May 2	171	184¾		13¾	
9	172	185½		13½	
16	173	185⅜	196¾	12⅜	11⅜
23	174	186	197¾	12	11¾
31	173	184½	196⅜	11½	11⅞
June 6	173½	184½	196½	11	12
13	174	184⅝	197⅛	10⅝	12½
20	173½	182¾	195⅞	9¼	13⅛
27	173	182½	195¼	9½	12¾
July 5	177½	183⅞	196¾	19¼	12⅞
11	174	182	195⅝	21⅝	13⅝
18	177	181¼	195	18	13¾
25	178½		194⅝	16⅛	
Aug. 1	180		195⅞	15⅞	
8	182		197⅛	15⅛	
15	181		196⅞	15⅞	
22	181		197⅞	16⅞	
29	183		197¾	14¾	
Sept. 6	185		197¼	13¼	
12	189		197⅝	8⅝	
19	187		197⅝	10⅝	
26	188½		198¾	10¼	
Oct. 3	191		199½	8½	
10	191		199½	8½	
17	188		200¼	12¼	
24	187		201¾	14¾	
31	189		203¼	14¼	
Nov. 7	189		204½	15½	
14	187		203¾	16¾	
21	185		203⅛	18⅛	
28	186		204⅜	18⅜	
Dec. 5	187		205¼	18¼	
12	189		207	18	
19	187		205⅛	18⅛	
27	190		207⅛	17⅛	
1961					
Jan. 3	192		208⅝	16⅝	
9	194		211	17	
16	192		210½	18½	
23	193		211¾	18¾	
30	196		215½	19½	
Feb. 6	194½		213¾	19¼	
13	189½		209	19½	
20	192½		211⅜	18⅞	
27	190		209⅞	19⅞	
Mar. 6	189		208⅝	19⅝	
13	188		208½	20½	
20	187		207	20	

(Table is concluded on next page)

Appendix Table 4. — Concluded

Date	East-central Illinois farm price	July	March	Basis	Difference
	1961 Crop				
1961					
Jan. 3	169	189 3/4		20 3/4	
10	170	190 1/4		20 1/4	
17	170	190 1/4		20 1/4	
24	172	191 3/4		19 3/4	
31	173	193 1/2		20 1/2	
Feb. 7	170	191 3/4		21 3/4	
14	172	192 3/8		20 3/8	
21	172	192 7/8		20 7/8	
28	176	197 1/2		21 1/2	
Mar. 7	172	191 1/2		19 1/2	
14	174	191		17	
21	174	189 5/8		15 5/8	
28	169	188 3/4		19 3/4	
April 4	174	188 5/8		14 5/8	
11	174	187 3/4		13 3/4	
18	172	186 3/4		14 3/4	
25	174	188 1/4		14 1/4	
May 2	174	188 7/8		14 7/8	
9	172	187		15	
16	173	188	202 1/4	15	14 1/4
23	173	186 3/8	201	13 3/8	14 5/8
31	172 1/2	186	200 5/8	13 1/2	14 5/8
June 6	174	187 1/8	202	13 1/8	14 7/8
13	175	187	202 3/8	12	13 3/8
20	179	189 7/8	205 7/8	10 7/8	16
27	179	190	205 1/4	11	15 1/4
July 5	183	192 7/8	206 5/8	23 5/8	13 3/4
11	181	190 1/2	205 3/8	24 3/8	14 7/8
18	181 1/2	192 5/8	207 3/8	25 7/8	14 3/4
25	183 1/2		209 1/8	25 5/8	
Aug. 1	185 1/2		209 3/8	23 7/8	
8	187		210 3/4	23 3/4	
15	189 1/2		212 1/4	22 3/4	
22	189		210 5/8	21 5/8	
29	188		208 7/8	20 7/8	
Sept. 6	188 1/2		203 7/8	15 3/8	
13	190 1/2		205 7/8	15 3/8	
20	189		204 7/8	15 7/8	
27	189		206 1/4	17 1/4	
Oct. 3	187		208 3/8	21 3/8	
10	188		208 1/2	20 1/2	
17	191		209 1/4	18 1/4	
24	196		210 1/2	14 1/2	
31	194		208 1/4	14 1/4	
Nov. 7	196		209 1/4	13 1/4	
14	197		209 1/8	12 1/8	
21	197		209 1/8	12 1/8	
28	199		209 7/8	10 7/8	
Dec. 5	196		209 1/4	13 1/4	
12	197		209 1/8	12 1/8	
19	195		208 7/8	13 7/8	
26	194		206 5/8	12 5/8	
1962					
Jan. 2	196		206 1/2	10 1/2	
9	191		207	16	
16	189		204 3/4	15 3/4	
23	187		202 3/8	15 3/8	
30	189		203 3/4	14 3/4	
Feb. 6	192		203 3/4	11 3/4	
13	194		202 3/4	8 3/4	
20	193		200 1/8	7 1/8	
27	193		199 3/4	6 3/4	
Mar. 6	196		202 1/4	6 1/4	
13	195		203 3/4	8 3/4	
20	196 1/2		205 5/8	9 1/8	

Date	East-central Illinois farm price	July	March	Basis	Difference
	Mean 1955-61 Crops				
Jan. 3	175 1/2	198 1/8		22 5/8	
10	176 1/8	197 7/8		21 3/4	
17	175 1/2	197 1/2		22	
24	175 7/8	197 5/8		21 3/4	
31	175 5/8	197 5/8		22	
Feb. 7	174 3/4	197 1/4		22 1/2	
14	176 5/8	198		21 3/8	
21	176 1/4	198		21 3/4	
28	177 1/8	198 1/2		21 3/8	
Mar. 7	176 3/8	196 7/8		20 1/2	
14	177 1/2	197 7/8		20 3/8	
21	176 5/8	196		19 3/8	
28	176 3/8	195 7/8		19 1/2	
April 4	176 5/8	195 7/8		19 1/4	
11	177 3/4	196 3/8		18 5/8	
18	176 1/8	195 1/4		19 1/8	
25	176 1/8	195 3/8		19 1/4	
May 2	176 1/8	194 1/4		18 1/8	
9	175 3/4	193 7/8		18 1/8	
16	176 5/8	194 1/2	204	17 7/8	9 1/2
23	176 5/8	193 1/2	203	16 7/8	9 1/2
31	175 1/2	192 3/8	202 1/8	16 7/8	9 3/4
June 6	175 3/8	192	201 5/8	16 5/8	9 5/8
13	176 5/8	193 3/8	203 3/8	16 3/4	10
20	177 7/8	193 1/2	203 1/2	15 5/8	10
27	179 7/8	194 7/8	204 7/8	15	10
July 5	181 3/8	194 1/4	204 7/8	23 1/2	10 5/8
11	181 3/8	195 1/8	205 1/2	24 1/8	10 3/8
18	183 3/4	197 1/4	207	23 1/4	9 3/4
25	182 3/8		205 5/8	23 1/4	
Aug. 1	182 7/8		206 3/8	23 1/2	
8	182 7/8		206 5/8	23 3/4	
15	184		208 3/4	24 3/4	
22	184 1/8		207 1/2	23 3/8	
29	184 1/4		207 3/4	23 1/2	
Sept. 6	186 1/2		208 1/2	22	
13	187 7/8		208 5/8	20 3/4	
20	187 1/8		208 1/8	21	
27	188		209 3/8	21 3/8	
Oct. 3	188 1/8		209 1/2	21 3/8	
10	189 3/8		210 3/8	21	
17	189 7/8		211 1/8	21 1/4	
24	190 1/8		210 5/8	20 1/2	
31	191		212 1/4	21 1/4	
Nov. 7	192 1/2		212 5/8	20 1/8	
14	192 7/8		213 1/8	20 1/4	
21	194 5/8		212 1/8	17 1/2	
28	194 1/8		212 1/2	18 3/8	
Dec. 5	195 1/8		212	16 7/8	
12	196 1/4		212 3/4	16 1/8	
19	195 3/4		211 1/2	15 3/4	
26	196 1/4		211 7/8	15 5/8	
Jan. 2	198 5/8		212 7/8	14 1/4	
9	198 7/8		213 3/8	14 1/2	
16	198 1/8		212 1/4	14 1/8	
23	197 7/8		211 3/8	13 1/2	
30	198 3/8		211 1/2	13 1/8	
Feb. 6	197 1/2		210 5/8	13 1/8	
13	197 5/8		210 1/2	12 7/8	
20	198 5/8		211 1/2	12 7/8	
27	199 3/8		211 3/4	12 3/8	
Mar. 6	199 5/8		213 1/8	13 1/2	
13	200 1/4		214 1/2	14 1/4	
20	198 1/2		213 3/8	14 7/8	

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